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COLONY OF MAURITIUS

# Annual Report

ON THE

# Medical and Health Department

## 1952

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H. F. Kelly, Acting Government Printer,
Port Louis, Mauritius
December 1953

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# Annual Report on the Medical and Health Department, 1952

## Foreword

The striking improvement in health conditions during the past few years as evidenced by the following statistical figures is undoubtedly one of the most notable features in the recent history of Mauritius :—

| *Year* | *Birth rate per °/oo* | *Death rate per °/oo* | *Infant mortality rate per °/oo* | *Maternal mortality rate per °/oo births* |
|---|---|---|---|---|
| 1933 ... ... | 34·7 | 27·3 | 131·5 | 9·9 |
| 1938 ... ... | 33·4 | 29·9 | 162·5 | 11·38 |
| 1943 ... ... | 33·1 | 25·9 | 141·5 | 5·14 |
| 1944 ... ... | 43·52 | 27·1 | 141·0 | 8·73 |
| 1945 ... ... | 38·3 | 36·1 | 188·0 | 14·96 |
| 1946 ... ... | 38·7 | 29·5 | 145·2 | 10·39 |
| 1947 ... ... | 43·8 | 20·1 | 113·9 | 5·25 |
| 1948 ... ... | 43·1 | 23·8 | 186·2 | 4·13 |
| 1949 ... ... | 46·0 | 16·6 | 91·0 | 3·79 |
| 1950 ... ... | 49·7 | 13·9 | 76·3 | 3·51 |
| 1951 ... ... | 47·5 | 14·9 | 83·5 | 3·24 |
| 1952 ... ... | 48·0 | 14·8 | 80·8 | 3·2 |

The factors responsible for bringing about such appreciable improvements have been, first of all, the progressive elimination of the disease malaria, the enemy No. 1, as a result of the campaign which began soon after the end of the second world war, the higher standard of environmental hygiene and the greater attention paid to health education; the absence of devastating cyclones during the past seven years and the marked prosperity of the island's main industry which has facilitated the financing of our expanding health services.

It is a matter for satisfaction that records have been established in every direction with a marked shortage of staff and accommodation which is in no way adequate to meet the needs of the moment. The remarkable results achieved may lead many to doubt the advisability of further expansion and to a desire to sit back and survey the present encouraging picture with complacency, but those who have the responsibility for the public health in this territory cannot adopt such an attitude. For example, the incidence of enteric fever may have shown a tangible decline during the past six years, yet 252 cases were notified in 1952; on the other hand, the sharp epidemic of poliomyelitis which occurred in the early months cannot be ignored. It may be true that poliomyelitis in itself is not of any great importance in the general health picture of the Colony, but its appearance causes considerable public uneasiness and is responsible for a heavy charge on the public purse. Although Mauritius, congested as it is with over half a million inhabitants, now compares most favourably with many other parts of the world better placed and with greater resources in so far as sanitation is concerned, there is still a long way to go to reach the goal which other countries have attained. A great health step forward has been taken here, but it is only a step: there is a pressing need for further developments, since good results cannot be maintained indefinitely by an organization which would remain outmoded and inadequate and which would fail to take heed of the modern scientific conception of health indicating not only absence of disease but a maximum degree of physiological and mental efficiency and aiming at the positive ideal of economic prosperity and social contentment.

The continuation of the Malaria Eradication Scheme has resulted not only in the almost complete disappearance of the disease malaria, but also in the apparent elimination of *Aedes ægypti*, a mosquito which has not been seen since the middle of 1951. It was found desirable, during the year, to include malaria in the list of notifiable diseases.

Other notable events were: the inception of a School Medical Service, the expansion of the Dental Service, a full scale health exhibition held between the 8th and 16th November and visited by 126,000 persons, the continuation of the B.C.G. vaccination campaign and the expansion of the Maternity and Child Welfare Service. The increasing attention which is being paid to the mothers and their children favourably influences the maternal and infant mortality rates. Tuberculosis received little attention as long as malaria was uncontrolled. The disease continues to give rise to some speculation in the absence of a comprehensive survey which it has not yet been possible to carry out. Tuberculin testing, compulsory notification of cases throughout the island and compulsory notifications of deaths in three of the main districts have, nevertheless, provided a certain amount of precise information indicating that the position is serious enough. Tuberculosis is now one of our major problems and will continue to be so, but it is not the only one. We must therefore be careful not to use all our resources in that one direction only.

The year 1952 was, on the whole, favourable in regard to the incidence of infectious diseases. No epidemic of any major infectious disease has occured for a considerable time, but it must be remembered that an outbreak of small-pox or cholera is an ever present danger. Very strict supervision is exercised at the gates of the island and air control is of particular importance in our chain of health activities. On the other hand, having eradicated malaria and destroyed our deadly *Anopheles funestus*, we cannot run the risk of introducing another vector.

The great number of persons seeking medical aid and the large volume of admissions continued to place a great strain on our dispensary and hospital services for, as already stated in the previous year's report, the people of this Colony are far more hospital and dispensary-minded than they were ten years ago. They are no longer prepared to suffer illness or confront ill-health with that passivity which until a few years ago appeared firmly established by its long continuance. Indeed, they are becoming so health conscious that a great number of them now readily cooperate with the Department to better health conditions in their towns and villages. While it is true that improved facilities and the new drugs have helped to attract more persons to the hospitals and dispensaries, it is equally true that health education has played a major part in bringing about the change of outlook. The contribution of the Education Department in particular has been and continues to be vital and the influence of the Press, the Cinema and the wireless in providing guidance for the population has been far from negligible. The Press has always shown extreme willingness to publish information on health matters and its cooperation at the time of the Health Exhibition was greatly appreciated. An acknowledgement is due to the Mauritius Broadcasting Service for its generous contribution at all times in respect of our health talks : during the year, it enabled the Department to broadcast a special programme on the occasion of the Health Exhibition. Our gratitude goes also to the Public Relations Officer for assistance in the visual education of the people by means of a well organized mobile cinema service.

As in former years, the most cordial cooperation existed between all Government Services and this Department. The Civil Commissioners who are responsible for district administration spared no efforts to assist the officers stationed in outlying areas in their difficult task. To one and all, I wish to express my thanks and those of the Department's staff for their much appreciated support and help.

Our relations with the Senior Medical Officer, Military Hospital, the local branch of the British Medical Association, the Municipal Council of Port Louis and the Town Councils of Curepipe, Quatre Bornes and Rose Hill–Beau Bassin were as usual harmonious. The Department was on several occasions consulted by the Local Authoritties on matters affecting public health.

It is not possible to mention individually the many persons who have helped in many ways and have contributed to the comfort and entertainment of the patients in the hospitals. In expressing the Department's gratitude for the assistance provided by various voluntary bodies, I should like to mention the following in particular : the Maternity and Child Welfare Society, the Mauritius Branch of the British Red Cross Society, the St. John Ambulance Brigade Overseas and the Stretcher-bearers' Association. The unselfish service of the voluntary worker is of the greatest importance and the public cannot thank him sufficiently in consequence. The Maternity and Child Welfare Society undertakes much of the work which otherwise would have to be done by the Department. The St. John Ambulance Brigade and Red Cross Society automatically become essential auxiliaries to the established medical services in various emergencies and consequently they play a most important part in the life of the Colony.

In July the Director of Medical Services attended the Third Commonwealth Health and Tuberculosis Conference held in London and the Conference of Heads of Medical Departments of Colonial Territories held in Oxford.

During the year under review, visitors from overseas included Lady Brecknoch, Assistant Superintendent-in-Chief (Overseas) St. John Ambulance Brigade ; Dr. John Logan, D. Sc., of the Rockfeller Foundation ; Dr. Louis Verhoestrate of World Health Organization ; Professor H. R. Dew, Dean of the University of Sydney ; Dr. G. Dufour, Director of Medical Services, Rèunion and Dr. Ella Mackenzie of the Ministry of Health.

## Functions of the Department

2. The functions of the Medical and Health Department are :—

(*a*) to investigate the influence of social, environmental and domestic factors on the incidence of human disease and disability ;

(*b*) to plan and carry out measures for the promotion of health ;

(*c*) to institute and maintain measures for the prevention of disease ;

(*d*) to provide a quarantine service to prevent the introduction of infectious disease by sea or air ;

(*e*) to provide facilities for treatment of disease including mental disease, by maintenance of hospital and dispensary services ;

(*f*) to make provision for the rehabilitation of the disabled ;

(*g*) to control the practice of medicine, dentistry and pharmacy ;

(*h*) to provide facilities for the training of nurses, midwives and sanitary officers ;

(*i*) to advise local authorities regarding their health services and to inspect those services ;

(*j*) to prepare and publish reports and statistical or other information relating to health.

# PART I

## Administration

### A. STAFF

3. The activities of the Department are coordinated by the Director of Medical Services assisted by two Deputy Directors and the staff is as follows ;—

| | |
|---|---|
| 3 | Medical Superintendents of Hospitals |
| 4 | Specialists |
| 2 | Part Time Specialists |
| 28 | Medical Officers |
| 4 | Part Time Medical Officers i/c Mobile Dipensaries |
| 2 | Pathologists |
| 3 | Dentists |
| 1 | Assistant Radiologist |
| 2 | Chemists |
| 1 | Entomologist |
| 1 | Pharmacist |
| 1 | Rehabilitation Officer |
| 1 | Visiting Matron |
| 3 | Matrons |
| 1 | Superintendent of Midwives |
| 1 | Sister-in-charge Orthopædic Unit |
| 2 | Occupational Therapists |
| 13 | Laboratory Assistants |
| 28 | Senior Dressers and Nurses |
| 295 | Dressers and Nurses |
| 48 | Midwives |
| 20 | Hospital Attendants (including 6 sisters of Mercy) |
| 3 | Senior Sanitary Inspectors |
| 55 | Sanitary Inspectors |
| 3 | Fieldmen |
| 2 | Storekeepers |
| 30 | Clerks |
| 1 | Registrar of Health Statistics |
| 1 | Assistant Statistician |
| 10 | Secretaries, Clerical Assistants and Typists |
| 1 | Steward Quarantine Station |
| 1 | Transport Officer |
| 998 | Others of minor ranks (which include messengers, drivers hospital servants etc.) |

## B. STAFF MOVEMENTS

*Overseas Leave : Departure*

1 Ward Sister
1 Sanitary Inspector
1 Medical Officer
1 Steward and Clerk
1 Chief Clerk
1 2nd Grade Clerk
1 Charge Nurse
1 Officer i/c Linen Room
1 Dresser Grade II } Study Leave
1 Dresser Grade III }

The Director of Medical Services left by air on the 29th June to attend the Oxford Conference of Directors of Medical Services and returned on the 9th August.

Arrival from overseas leave :—
6 Medical Officers
1 Typist
1 Specialist Orthopædic Surgery
1 Sanitary Inspector
1 Medical Superintendent
1 Assistant Statistician
1 Dresser Grade II
1 2nd Grade Clerk
1 Ward Sister

The following first appointments were made :—
3 Senior Nursing Sisters
1 School Medical Officer
1 Government Chemist
2 Dentists

## C. FINANCIAL

5. The revenue of the Colonial Government for the financial year 1951–52 was Rs. 82,612,695.99 of which Rs. 182,983.95 was received through the Medical and Health Department. The actual expenditure on Medical Services was Rs. 6,260,273 or 8·47 per cent of the total expenditure for the year, which amounted to Rs. 73,861,433.61. This represents a sum of Rs. 12.66 per head of the estimated population at 31st December, 1951 (mid-financial year).

6. The expenditure under the Development and Welfare Plan totalled Rs. 2,338,236.82; out of which the assistance from the metropolitan Government amounted to Rs. 1,011,003.06 for permanent anti-malarial works and Rs. 400,705.34 for research on malaria and its local vectors.

Work carried ouf by other Government organizations concerned water supplies. Rs. 690,690 were spent by the Public Works Department. It is difficult to assess financially with any reasonable degree of precision the contribution of the Departments of Education, Social Welfare and Public Relations in regard to health education.

In addition to the above. account must be taken of the amounts spent on health services by local Authorities and by sugar estates. An indication of the extent of the health services on sugar estates is the fact that they have a total hospital accommodation of 738 beds.

## D. LEGAL

7. *Ordinance No. 6,* cited as the Lunacy (Amendment) Ordinance 1952, to amend the Lunacy Ordinance respecting the custody of money accruing to a mental patient through his employment in any department of the Mental Hospital.

*Ordinance No. 13,* cited as the Public Health (Amendment) Ordinance 1952 to amend Section 3 of the Principal Ordinance to the effect that "malaria" and "venereal disease" shall be added to the first proviso of Section 3—the definition of "infectious and contagious disease" being changed to "infectious or communicable disease"; and to add a proviso to Section 156 whereby the words "non paying patient" written on the diet sheets of patients admitted to hospitals by Medical Officers of the Health Department shall be construed as an order for gratuitous admission exempt from the provisions of this sub-section.

*Ordinance No. 65,* cited as the Public Health (Amendment No. 2) Ordinance 1952, to provide that the authority for the grant of permit to exhume the remains of a dead body should be the Director of Medical Services instead of the Governor, as provided in sub-section (3) of Section 163 of the Principal Ordinance.

Under section 165 of the Public Health Ordinance (Cap. 177) which has not been amended, orders of exhumation, where factors other than those affecting the administration of justice or public health may be involved, are granted by the Governor.

*Covernment Notice No. 77,* (re-published under Government Notice No. 82) cited as the Public Health (Infantile Paralysis) Regulations 1952 being regulations made by the Director of Medical Services under Sections 79 and 80 of Part (IV) *(c)* of the Public Health Ordinance to prevent young persons being carried in "means of public conveyance", *Government Notice No. 82,* cited as the Cemeteries (Amendment) Regulations 1952, being regulations made by the Director of Medical Services under Section 193 of the Public Health Ordinance (to be read as one with the Cemeteries Regulations 1946) to the effect that for the figure and word " 500 metres " there were substituted the figure and word " 200 yards ".

*Government Notice No. 85,* cited as the Dependencies Preservation from Poliomyelitis Regulations 1952 being regulations made by the Director of Medical Services under Section 3 (*g*) and (*p*) of the Quarantine Ordinance, to declare poliomyelitis a contagious and infectious disease under the Quarantine Ordinance and directing that no young person shall for the time being proceed to Rrodrigues or any of the lesser dependencies.

*Government Notice No. 101,* cited as the Public Health (Infantile Paralysis Control) Amendment Regulations 1952 to amend the Public Health (Infantile Paralysis Control) Regulations 1952 (published under Government Notice No. 84). The age of " young person " being amended from 15 to 5 years.

*Government Notice No 139,* (reprinted under Government Notice No. 144) cited as the Public Health (Infantile Paralysis Control) (Revocation) Regulations 1952 being regulations made by the Director of Medical Services under Sections 79 and 80 of Part IV (*c*) of Public Health Ordinance 1925—to revoke the Public Health (Infantile Paralysis Control) Regulations 1952 (published under Government Notice No. 77).

*Government Notice No. 146,* cited as the Public Health (Hospitals and Dispensaries) Amendment Regulations 1952, being regulations made by the Director of Medical Services under Sections 155, 157 and 193 of the Public Health Ordinance, as subsequently amended, respecting certain categories of Government Officers and Employees and their wives and children who are entitled to free medical treatment in Government Hospitals and to free issue of medicines from public dispensaries.

*Government Notice No. 169,* publishing rules for nursing students in public hospitals.

*Government Notice No. 222,* cited as the Dental Mechanics (Registration) Regulations 1952, being regulations made by the Director of Medical Services under Section 13 (2) of the Dentists Ordinance 1951 respecting the registration of dental mechanics.

*General Notice No. 166,* to the effect that the regulations published under G.N. No. 196 of 1948 (The Public Health (Disposal of refuse) Regulations 1948) shall apply to the villages of Mahebourg, Rose Belle, Souillac and Rivière des Anguilles.

*General Notice No. 601,* under Section 161 of the Public Health Ordinance, to select and appoint a portion of land at Petit Sable in the District of Grand Port, to be the site of and to be used as a cemetery.

# PART II

## Natural and Social Conditions

8. *Physiography.*—The island of Mauritius lies between latitude 19°50 and 20°31 South and longitude 57°18 and 57°48 East of Greenwich. The total length North to South is nearly 39 miles and its breadth East to West is 29 miles. The area of the main island is 716 square miles and that of the small islets round the coast 4 square miles, making a total of 720 square miles (460,800 acres). The ground rises to an elongated central plateau, lying roughly North—South, the altitude of which above sea level is 1,800–1,900 feet. It is bounded or the North, East and South—West by abrupt and broken mountain ridges. On the South and South—East it slopes gradually to the sea. The highest mountain peak is 2,711 feet.

The coast line is irregular and is surrounded by numerous coral reefs. There are two ports and several anchorages of minor importance; the two ports are Port Louis on the North—West and Mahebourg on the South—East. Numerous sea-side resorts and bathing stations exist all round the coast.

Rivers and streams are numerous. The generally flow through large ravines and their course is frequently broken by waterfalls and rapids. None of the rivers are navigable and the regime of most of them is very variable: in dry weather they are little more than streams, while during heavy rains they swell to raging torrents.

9. *Climate.*—Although Mauritius lies just within the tropics, its climate is on the whole comparatively mild and equable. There are, however, very sensible variations of climate in the different parts of the island.

From South to East the island is exposed to the normal trade wind currents. The North and Western Districts, the leeward side of the island, are consequently the driest and hottest.

The maximum shade temperature recorded on the Northern plains (180 feet above sea-level) has never exceeded 95° F (35° C) and over the Central table-land (1,800 feet) the maximum seldom reaches 80° F (27° C). The high relative humidity however renders the heat oppressive at certain times of the year and causes considerable discomfort specially in the lowlands. For the same reason, the winter in the highlands is disagreeably cold, although the temperature never falls below 45° F (7° C). The humid conditions along the coast are favourable for the breeding of the vectors of malaria. On the other hand, the sudden drops of temperature which are noticeable over the Central Plateau stimulate metabolism, and the diurnal and seasonable ranges of temperature which are met at that level render this plateau climatically better suited to the young and healthly than the narrower ranges encountered at the coast. Cases of heat stroke which occur at continental stations in similar latitudes are almost unknown in Mauritius, but Europeans probably could not, except under very trying conditions, perform the manual field-work rquired for agricultural purposes.

Rainfall is abundant but varies considerably in different parts of the island. The mean annual rainfall varies from less than 30 inches (760 millimetres) on the North and West coast to 150 inches (3·8 metres) in parts of the Central Plateau, where in some years it has been known to exceed 197 inches or 5 metres. The heavy summer rainfall begins in December, reaches a maximum between January and March and gradually decreases to the dry season in October and November. On the highlands, however, the winter rainfall, brought in by the trade winds, may be quite important. Tropical cyclones are frequent in the vicinity of Mauritius during the summer months (December to April); they have at times caused considerable damage to crops, trees and structures and even on rare occasions, caused loss of life.

10. *The weather of 1952* :—

(*a*) *Cyclones.* No tropical cyclone harmed Mauritius to any considerable extent during the year : the strongest winds were associated with wintry conditions during August and the average speed over one whole hour never exceeded 33 m.p.h.

(*b*) *Rainfall.* The total for the year, averaged over the whole island, was about 25 per cent above normal, the largest excess falling in the East.

In January the average rainfall was only half the normal and in May about 80 per cent of normal. March, generally the wettest month of the year, was even wetter than normal. In July rainfall was nearly twice the normal, in November over one and a half times normal and in December two and a half times normal. From August to October amounts were 20 to 30 per cent above normal.

The only notable local differences between districts were the continuation of relatively dry conditions in February in the North and again in May, June and October and the fairly dry period in the West from April to June.

(*c*) *Temperature.* As would be expected with high rainfall amounts, the maximum day temperatures were below normal in every month except January and May and night minimum temperatures were above normal in every month except July and October.

(*d*) *Sunshine.* Again the high cloud and rainfall amounts are reflected in the amounts of sunshine recorded which were below normal in every month except January and October.

(*e*) *Humidity.* Relative humidity was well below normal in January, about normal in October but above normal in all other months and exceptionally high in December.

11. *Social and Economic Conditions.* Although in relation to its resources, Mauritius is certainly considerably overpopulated, yet the density of population in the island is not overwhelmingly large, save perhaps in towns and villages where it easily matches some of the most densely populated regions of the globe. On the point of population density, Port Louis might easily compare with the Chinese province of Macao, while the larger villages would compare favourably with Hong Kong and Singapore. The present population is three times what it was a century ago.

The Mauritian population lives in the greatest measure on the proceeds of sales of its sugar. The island has been fortunate in having produced, in the absence of destructive storms, increasingly record sugar crops during the last six years, the production being now 56 per cent above its pre-war level. The whole island economy is however dependent on this single crop, which constitutes 97 per cent of the domestic exports in value. The Colony produces comparatively little food : maize, insignificant quantities of rice, some potatoes and other root crops, vegetables and fruits. The bulk of the food is accordingly imported from the East and Far East and from Australia.

The relative prosperity of the past few years has permitted of many improvements in public services and additional social welfare measures to be undertaken. Malaria has reached the point of elimination ; projects concerning domestic water and electricity supplies and irrigation have been implemented ; new roads have been constructed.

While this relative prosperity and the remarkable results achieved in the public health field have brought the death rates to a low level, there has been a larger increase in the reproductive rates of the population. Birth rates have reached the highest figures ever recorded and the exhorbitant natural growth of the population, now over 6 times what it was in pre-war days, constitutes one of the serious problems of the hour.

# PART III

## Laboratory Services

12. The Central Laboratory sited at Reduit is divided into two sections: bacteriological and chemical, and it has two branch laboratories attached to the two main general hospitals, the Civil Hospital at Port Louis and the Victoria Hospital at Quatre Bornes. In addition the Laboratory services have in 1952 been extended to the Orthopædic Hospital at Floréal, which one of the technicians of the Central Laboratory visits twice weekly.

The total number of examinations made amounted to 65,157 as compared with 64,151 in 1951 and 50,234 in 1950. Of these, 45,422 were done at the Central Laboratory (Bacteriological Division 34,207, Chemical Division 10,433), 10,277 at the Civil Hospital and 9,458 at the Victoria Hospital. The figures show an increase over the previous year at the Central Laboratory and Victoria Hospital, whereas at the Civil Hospital there has been a drop. This is accounted for by the fact that urines from Medical Board cases are no longer being examined at the Laboratory; also the Medical Officers have been cutting down unnecessary examinations to relieve the hard pressed laboratory assistants. At Victoria Hospital, the work has gone up so fast that a second technician had to be posted there during the year to cope with the situation.

13. The Laboratories of both Civil and Victoria Hospitals are being gradually modernised: electric centrifuges were installed in lieu of the laborious hand ones, a small refrigerator was also added at the Civil Hospital to preserve sera etc., from the heat of Port Louis.

In the section of hæmatology, owing to the recent trend in blood transfusion therapy, blood grouping is increasing by leaps and bounds. Rh grouping was done on eleven occasions, but owing to the scarcity of sera, routine testing has not yet been possible. The work of the laboratory is analysed in Appendix I.

14. The programme of Schistosomal survey described in the Annual Report for 1951 was continued by the Pathologist, Dr. S. G. COWPER. His report is appended (Appendix II).

# PART IV

## Medical Services

15. At the begining of this chapter, it is advisable to tabulate the health facilities which were available on the island in 1952. This is done in Table I.

### TABLE I

| *A. Medical and Health Staff* | *Government* | *Private* |
|---|---|---|
| 1. Registered doctors | 40 | 51 |
| 2. Nurses of senior training | 9 | — |
| ,, in hospitals | 103 | — |
| Dressers in hospitals | 156 | — |
| 3. Superintendent of midwives | 1 | — |
| Midwives | 48 | — |
| 4. Sanitary Inspectors | 52 | — |
| 5. X-Ray Specialists | 2 | 1 |
| X-Ray Technicians | 2 | — |
| 6. Pharmacists | 1 | 35 |
| 7. Dentists | 3 | 17 |

| *B. I. Government Institutions* | *No. of Institutions* | *No. of beds* |
|---|---|---|
| 1. General Hospitals | 8 | 1,191 |
| 2. Dispensaries (including 2 in the Prisons) | 45 | — |
| 3. Specialized Units :— | | |
| (*a*) Maternity and Child Welfare Centres | 10 | — |
| (*b*) Leprosarium | 1 | 62 |
| (*c*) Mental Hospital | 1 | 693 |
| (*d*) Orthopædic Hospital | 1 | 230 |
| (*e*) Prisons Hospitals | 2 | 73 |
| 4. Mobile Units :— | | |
| (*a*) Dispensaries | 4 units | |
| (*b*) Ante-natal clinic | 1 unit | |
| *II. Private Institutions* | | |
| 1. Sugar estates hospitals | 33 | 738 |
| 2. Sugar estates dispensaries | 8 | — |
| 3. Nursing homes | 5 | 53 |

16. Mauritius has quite a good network of hospitals and dispensaries, whether fixed or mobile, and there is no doubt that accessible treatment facilities are afforded to the entire population. But it must be kept in mind that the population has increased by about 69,000 souls during the past five years, and consequently personnel and buildings are becoming insufficient to meet the ever growing demands. Personnel, fully trained and devoted, is more important than buildings. The numbers could not be appreciably increased during the period under review ; yet those who did the work were not discouraged and in order to accomplish their task, the Medical Officers and the Nursing Staff very often remained on duty for longer hours. The patients owe them a debt for the work accomplished and for the efficient manner it was performed.

## I. Hospitals

17. Table II shows the work performed at the various hospitals. 31,206 in-patients were treated during the year as compared with 30,747 for 1951, 28,303 for 1950 and 27,772 for 1949. Overcrowding, particularly noticeable at certain times of the year, is still too frequent and additional accommodation, as laid down in the departmental building programme, is urgently required. The marked increase in the numbers admitted to the hospitals is far in advance of anything anticipated twelve years ago and it must be placed on record that a good hospital service has been maintained within the serious limitation of inadequate accommodation, but it must be made very clear that there is a limit to progress under these conditions ; the stage has already been reached when the risk of creating disease in the institution itself exists.

### *Buildings*

18. Repairs and minor extensions proceeded satisfactorily in the district hospitals. Unfortunately, this is not enough. The main building programme suffered yet another set-back. Not only increased building costs necessitated a revision of many plans already completed, but our own programme must compete with the building schemes devised to meet the acute housing shortage and other socio-economic needs. There are great difficulties in executing a programme of such a magnitude. It is estimated that the cost of constructions needed to meet the Colony's requirements is in the order of 25 to 30 million rupees per annum. To this is opposed the inability of contractors to expand much beyond the present limit of executing work to the value of about seven million rupees per annum ; and while means of improving production methods adapted to the local background are under consideration, this Department has to share with other essential social services whatever assistance can be obtained from the building trade.

However, the construction of quarters for a Medical Officer at Mahebourg in Grand Port district and of staff quarters at Civil Hospital, Port Louis, was completed during the year, while the much-needed extensions to the Mental Hospital were nearing completion. The detailed drawings for the first Nurses' Home which will be erected near Victoria Hospital, Quatre Bornes, instead of near the Civil Hospital, Port Louis, as originally contemplated and those for the Orthopaedic Centre were revised in the light of present realities. It is now probable that the foundation stones of the two proposed buildings will be laid towards the end of August 1953. The construction of the Orthopædic Centre, in particular, is a most pressing requirement, since the existing temporary hospital at Floréal has reached such a condition of decrepitude that it could not resist wind pressure exceeding 50 miles per hour in case of cyclonic weather.

### *Equipment*

19. The provision of better equipment cannot be denied to a modern expanding hospital service and improvements continue to be effected year after year on the lines described in the previous annual reports.

MENTAL HOSPITAL—THE NEW FEMALE WARD

## TABLE II

## REPORT ON HOSPITALS (CALENDAR YEAR 1952)

| *Hospital* | *Patients remaining on 31.12.51* | *Total Admissions* | *Deaths* | *Patients remaining on 31.12.52* | *Number of beds* | *Number of patients on any date during period under review* | | *Medical Cases* | *Surgical Cases* | *Number of operations performed on* | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | *Maximum* | *Minimum* | | | *In-patients* | *Out-patients* |
| Civil ... ... ... | 208 | 8,355 | 451 | 231 | 410 | 386 | 209 | 5,873 | 2,482 | 2,134 | 4,589 |
| Long Mountain ... ... | 19 | 2,408 | 32 | 27 | 65 | 74 | 27 | 2,065 | 342 | 51 | 207 |
| Poudre d'Or ... ... | — | 2,043 | 21 | 5 | 70 | 63 | 5 | 1,533 | 510 | 131 | 281 |
| Flacq ... ... ... | 15 | 2,642 | 51 | 42 | 92 | 85 | 15 | 1,820 | 822 | 66 | 1,299 |
| Mahebourg ... ... | 29 | 2,565 | 96 | 32 | 105 | 105 | 29 | 2,210 | 355 | 256 | 1,286 |
| Souillac ... ... ... | 40 | 3,897 | 74 | 45 | 103 | 120 | 34 | 2,449 | 1,448 | 308 | 271 |
| Moka ... ... ... | 26 | 1,135 | 41 | 31 | 83 | 79 | 20 | 594 | 541 | 432 | 458 |
| Victoria ... ... ... | 216 | 6,663 | 354 | 145 | 263 | 269 | 201 | 4,166 | 2,497 | 1,679 | 5,993 |
| Mental (Infirmary only)* | 10 | 348 | 37 | 12 | 64 | 49 | 16 | 317 | 31 | 126 | — |
| Industrial School ... ... | 4 | 210 | — | 4 | 16 | 17 | 2 | 119 | 91 | 4 | 24 |
| Beau Bassin Prisons ... | 11 | 247 | — | 10 | 57 | 17 | 5 | 170 | 77 | 15 | 56 |
| Floreal † ... ... ... | 153 | 686 | 16 | 147 | 230 | 262 | 147 | 323 | 363 | 1,183 | 1,395 |
| Leper ... ... ... | 52 | 7 | 2 | 48 | 62 | 52 | 48 | 7 | — | — | — |
| TOTALS ... | 783 | 31,206 | 1,175 | 779 | 1,620 | 1,578 | 758 | 21,646 | 9,560 | 6,385 | 15,859 |

*Infirmary only—The Mental Hospital has a total bed strength of 693.

† Hospital for poliomyelitis and Orthopædic cases.

### *Specialist Services*

20. In view of the steady advances in the various branches of the medical profession and of modern diagnostic and therapeutic auxillaries which have become necessary, there was a very justifiable demand for treatment by specialists. It is very difficult for the general duty officer, who must continue to constitute the backbone of the Medical Services, to acquire sufficient experience to enable him to deal adequately with the many complicated and difficult cases coming up to seek treatment. For this reason, it has been found necessary to appoint medical officers with special training and/or experience and interest for specific duties at the larger centres of treatment.

The following specialists' posts are now established: Surgery, Orthopædic Surgery, Anæsthetics, Radiology, Tuberculosis. In addition, one Ophthalmologist and one genito-urinary Surgeon are available on a part-time basis and there are two posts of assistants for the special branches of Orthopædics and Tuberculosis. It is considered that an ear, nose and throat specialist should be appointed as soon as possible and it is hoped that an assistant anæsthetist will be available in the very near future to help the overworked senior man.

### *Personnel*

21. The staff position in regard to Medical Officers continued to cause great anxiety as it will be another two to three years before the Colony can get the full benefit from the supply of Mauritian medical students who started their studies in the immediate post-war period. An important factor likely to improve future recruitment of Medical Officers is the new medical salary scale recommended by the Salaries Commissioner in his report submitted at the end of the year. This report immediately received active consideration from Government and it is extremely probable that a final decision will be reached during the early months of 1953.

During the year, the medical establishment was increased by 4 Medical Officers and it was possible to secure the services of 1 medical practitioner on a part-time basis. There were 6 Medical Officers on study or vacation leave in Europe of whom two were studying for the Diploma in Public Health, one for the Diploma in Tuberculosis and two were following courses in surgery. Although 14 nurses, 16 dressers and 14 midwives were appointed, the nursing establishment could not be kept us to strength. Improvements in the conditions under which the nursing staff works has had a beneficial effect on recruitment of probationers during the past years, but the disappointing feature is that not all recruits can obtain their certificates, as many fail to pass the first part of the examination, the stumbling block in the nurses' training course. The situation will doubtless be remedied as education improves.

### *Medical Stores*

22. The Stores Section is supervised in so far as purchase, supplies and consumption of drugs, medical and surgical equipment are concerned by the Pharmacist and it is under the general control of a Storekeeper, stationed at Medical Headquarters. Its main function is to act as a bulk buying office, the supplies being obtained from the Crown Agents for the Colonies, and distributing centre for all the department's institutions in supplies of drugs, dressings, materials for bedding and uniforms, surgical instruments and other equipment.

It is now proposed to add another function and to annex to the general stores a small pharmaceutical manufacturing unit to prepare ampoules, tablets and other pharmaceutical preparations. It has been estimated that quite an appreciable saving on expenditure will be effected by including such a small manufacturing unit within the scope of our activities.

### *Radiology*

23. The work of this branch has continued to expand with an increase in the number of examinations carried out. This number has risen from 8,379 in 1949 and 8,780 in 1950 to 12,726 in 1951 and 14,034 in the year under review in the report.

The details concerning the main X-Ray Centre at Victoria Hospital are as under :—

| | |
|---|---|
| Skeleton... ... ... ... ... ... | 4,957 |
| Alimentary tract ... ... ... ... | 2,322 |
| Respiratory tract ... ... ... ... | 3,980 |
| Urinary tract ... ... ... ... ... | 333 |
| Other abdominal organs ... ... ... | 271 |

The 2,170 examinations which were carried out at the Civil Hospital were all confined to the skeleton.

24. The Assistant Radiologist joined the branch in May after completing his study course in England. Shortly after his arrival the whole of the radium present in the Colony, i.e., 98 milligrammes was pooled at Victoria Hospital under his charge.

The number of applications were :—

| | |
|---|---|
| For malignant disease of the skin ... ... | 7 |
| For malignant disease of the uterus ... ... | 21 |
| For malignant disease at other sites ... | 4 |
| For non-malignant cases ... ... ... | 6 |

25. The additional diagnostic plant as well as the deep X-Ray therapy and superficial therapy units received during the previous year could not be put into use, because the accommodation due to be provided at the new Orthopædic Centre was not ready. As delays are occurring in the construction of that Centre, the possibility of housing the above-mentioned units in an emergency building which would subsequently remain as an adjunct to Victoria Hospital is under consideration.

### *Ophthalmology*

26. The following figures summarise the work performed by the Ophthalmological Service, which continued to be under a most devoted part-time specialist :—

| *Disease* | *Civil Hospital* | | *Victoria Hospital* | |
|---|---|---|---|---|
| | *Indoor* | *Outdoor* | *Indoor* | *Outdoor* |
| Conjuuctivitis and Ophthalmia | 4 | 586 | 13 | 475 |
| Blepharitis | — | 69 | 1 | 48 |
| Hordeolum | — | 77 | — | 45 |
| Iritis | — | 40 | 8 | 38 |
| Keratitis | 2 | 91 | 15 | 96 |
| Uveal tract disease | 1 | 50 | 18 | — |
| Optic nerve and retina | — | 14 | — | — |
| Lachrymal sac and duct | 2 | 7 | 10 | 22 |
| Other inflammatory diseases | — | 18 | 17 | 35 |
| Refractive errors | — | 270 | — | 36 |
| Corneal ulcers | 10 | 100 | 23 | 65 |
| Corneal opacities | 1 | 75 | 2 | 65 |
| Pterygium | — | 75 | — | 33 |
| Strabismus | — | 3 | 1 | 12 |
| Cataract | 80 | 123 | 180 | 196 |
| Glaucoma | 3 | 5 | 10 | 12 |
| Other diseases of eye | 2 | 107 | 13 | 562 |
| Foreign body cornea | 2 | — | 7 | 96 |
| Burns | — | — | 3 | 1 |
| *Operations* | | | | |
| Cataract | 65 | — | 131 | — |
| Iridectomy | 14 | — | 13 | — |
| Trephining for glaucoma | 2 | — | 2 | — |
| Enucleation | 7 | — | 8 | — |
| Pterygium, Chalazion, flaps, Excision of lachrymal sacs etc. etc. | 6 | 20 | 266 | — |

### *Anæsthesia*

27.—*(a)* The Anæsthetic Branch came into being in the course of 1951. As an introduction to this, the first account of the new division, it is fitting to discuss its role in a hospital service. The main job of an anæsthetist is to administer anæsthetics. But it is necessary sometimes to underline the fact that it is not his only job. While the surgeon is working on an organ, the anæsthetist looks after the patient. In England, when a patient dies with 24 hours of an operation, it is the anæsthetist who goes to the coroner. And the first question he gets asked is: " Did you examine the patient beforehand ? "

Apart from the purely anæsthetic activities, which necessarily include pre-and-post operative attention, the anæsthetist's interest and usefulness extend to several spheres which derive from his main occupation. The most important are:—

(i) Resuscitation, and care of the unconscious patient. Little need be said about this favourite pastime of all anæsthetists. Modern life-saving methods can sometimes be so effective that it is the practice in some places to consult with the anæsthetist in the treatment of all cases brought unconscious to the hospital.

(ii) Diagnostic and Therapeutic Nerve Blocks. Regional anæsthesia is seldom used nowadays except for the above named purposes. Sympathetic blocks (Stellate and Lumbar) are of great value in many circulatory disorders and some painful conditions. Blocks of various cranial and spinal nerves relieve pain of short duration. Injection with alcohol can be resorted to when the pain is of long duration e.g., *tic douloureux* or *carcinoma*. There have been scores of opportunities to practise such blocks, though through lack of time no more than a passing interest has been taken in this fascinating field.

(*b*) The new division is under the responsibility of a full-time qualified anæsthetist. During the year, he was assisted by a visiting specialist and the Medical Officers stationed at the main centres of surgery also helped by giving about 1 in 6 of the anæsthetics, mostly in emergency cases that did not present special anæsthetic problems.

28. *Work done in 1952.* The Anæsthetic Branch has until now officially restricted its sphere of activity to Civil, Victoria and Floréal Hospitals. The figures given here are therefore for these three large hospitals. It is intended soon to serve Moka Hospital as well. Figures have been kept only for major operations. They are as follows:—

| | *Anæsthetic Specialist* | *Visiting Specialist* | *RMO's* |
|---|---|---|---|
| Civil Hospital ... ... ... | 395 | 7 | 107 |
| Victoria Hospital ... ... ... | 305 | 265 | 87 |
| Floréal Hospital ... ... ... | 306 | — | — |
| TOTAL... ... ... | 1006 | 272 | 194 |

## *Surgery*

29. The units once more covered a large volume of surgery which included a considerable number of operations classed as major. The work carried out represents nothing less than overwork on the part of the surgical personnel available, especially when it is borne in mind that there was no increase in the surgical staff during the year and no appreciable improvement in the accommodation at the disposal of the units.

Table III indicates the surgical work performed in all the public hospitals :—

## TABLE III

| *Nature of Operations* | *Number Performed* |
|---|---|
| 1. STOMACH AND DUODENUM :— | |
| (*a*) Closure of perforation | 26 |
| (*b*) Gastro-enterostomy | 67 |
| (*c*) Gastrectomy | 43 |
| (*d*) Others | 7 |
| 2. INTESTINES :— | |
| (*a*) Closure of wounds and perforations | 7 |
| (*b*) Resection and/or anastomosis | 2 |
| (*c*) Reduction of volvulus | 1 |
| (*d*) Reduction of Intussusception | 6 |
| (*e*) Division of adhesions or bands | 2 |
| (*f*) For any other cause of obstruction | 5 |
| (*g*) Formation or closure of artificial anus | 5 |
| (*h*) Appendicectomy | 329 |
| (*i*) Drainage of peritoneal abscesses | 3 |
| (*j*) Omentopexy | 1 |
| (*k*) Exploratory Laparatomy | 33 |
| (*l*) Others | 11 |
| 3. RECTUM AND ANUS :— | |
| (*a*) Excision of rectum | 1 |
| (*b*) Treatment of prolapse | 27 |
| (*c*) For fissure and fistula | 34 |
| (*d*) For ischio-rectal abscess | 59 |
| (*e*) Ligature of haemorroids | 102 |
| (*f*) Injection of haemorroids | 11 |
| (*g*) Sigmoidoscopy | — |
| (*h*) Others | 46 |
| 4. HERNIA :— | |
| (*a*) Inguinal | 150 |
| (*b*) Femoral | 2 |
| (*c*) Umbilical | 8 |
| (*d*) Others | 13 |
| 5. LIVER, SPLEEN AND PANCREAS :— | |
| (*a*) Upon liver | 3 |
| (*b*) Cholecystectomy | 9 |
| (*c*) Other operations upon gall bladder | — |
| (*d*) Splenectomy | 4 |
| (*e*) For pancreatitis | 1 |
| (*f*) Others | 6 |
| 6. URINARY SYSTEM :— | |
| (*a*) Nephrotomy | 2 |
| (*b*) Nephrectomy | 7 |
| (*c*) Perinephric explorations | 2 |
| (*d*) Upon Ureters | 4 |
| (*e*) Cystotomy and supra public drainage | 31 |
| (*f*) Prostatectomy | 11 |
| (*g*) Urethrotomy | 10 |
| (*h*) For urethral fistula and abscess | 2 |
| (*i*) Cystoscopy and ureteric catheterization | 13 |
| (*j*) Urethral catheterization and passage of sounds | 36 |
| (*k*) Others | 7 |
| 7. MALE ORGANS OF GENERATION :— | |
| (*a*) Circumcision | 56 |
| (*b*) Others for paraphimosis | 83 |
| (*c*) Amputation of penis | 2 |
| (*d*) Hydrocelotomy | 99 |
| (*e*) For varicocele | 2 |
| (*f*) Upon testis and epididymis | 2 |
| (*g*) Others | 60 |

## TABLE III—*continued*

| *Nature of Operations* | *Number Performed* |
|---|---|
| 8. FEMALE ORGANS OF GENERATION :— | |
| (*a*) Ovariotomy | 23 |
| (*b*) Salpingotomy | 17 |
| (*c*) Salpingostomy, for sterility | — |
| (*d*) Myomectomy | — |
| (*e*) Hysterectomy | 76 |
| (*f*) Hysteropexy | 14 |
| (*g*) Cæsarian Section | 44 |
| (*h*) Uterine suture | 1 |
| (*i*) For extra-uterine gestation | 9 |
| (*j*) Drainage of pelvic abscess | 5 |
| (*k*) Instrumental delivery and destruction of fœtus | 45 |
| (*l*) For vesico-or-recto-vaginal fistula :— | |
| (i) Plastic repair | 14 |
| (ii) Utero-colic anastomosis | — |
| (*m*) Colporrhaphy and perineorrhaphy | 24 |
| (*n*) Removal of uterine contents and/or dilatation and curettage | 215 |
| (*o*) Induction of labour or abortion | — |
| (*p*) Insufflation of fallopian tubes | — |
| (*q*) Uterine drainage | — |
| (*r*) Examination and/or manipulation of uterus or fœtus | — |
| (*s*) Upon cervix | 112 |
| (*t*) Others | 99 |
| 9. EYE — | |
| (*a*) For entropion | 24 |
| (*b*) For cataract | 207 |
| (*c*) For glaucoma | 3 |
| (*d*) Iridectomy | 35 |
| (*e*) Enucleation and evisceration | 19 |
| (*f*) Others | 566 |
| 10. EAR, NOSE AND THROAT :— | |
| (*a*) Myringotomy | 1 |
| (*b*) Mastoidotomy | 13 |
| (*c* Removal of foreign bodies | 74 |
| (*d*) Reduction of nasal fracture | 1 |
| (*e*) Resection of septum | 10 |
| (*f*) Turbinectomy and/or drainage of sinuses | 22 |
| (*g*) Removal of tumours | 41 |
| (*h*) Tonsillectomy, by guillotine | 534 |
| (*i*) Tonsillectomy, by dissection (both including removal of adenoids) | 24 |
| (*j*) For quinzy | 31 |
| (*k*) Uvulotomy | — |
| (*l*) Laryngoscopy, bronchoscopy and œsophagoscopy | 5 |
| (*m*) Others | 215 |
| 11. MOUTH AND NECK :— | |
| (*a*) Extraction of teeth | 6,775 |
| (*b*) Upon jaws (including treatment of fractures) | 3 |
| (*c*) Upon tongue and lips (including removal of tumours but excluding plastic) | 32 |
| (*d*) Excision or treatment of glands in neck | 17 |
| (*e*) Tracheotomy | 9 |
| (*f*) Thyroidectomy (including ligature of thyroid vessels) | 3 |
| (*g*) For thyri-glossal cysts | 5 |
| (*h*) Others | 12 |

## TABLE III—*continued*

| *Nature of Operations* | *Number performed* |
|---|---|
| 12. CHEST :— | |
| (*a*) Thoracotomy and pleural drainage | 4 |
| (*b*) Lobectomy | — |
| (*c*) Upon cardia | — |
| (*d*) Phrenic avulsion | 23 |
| (*e*) Artificial pneumothorax | 709 |
| (*f*) Paracentesis | 143 |
| (*g*) Others | 5 |
| 13. MAMMARY GLANDS :— | |
| (*a*) Mastectomy | 12 |
| (*b*) Excision of tumour | 9 |
| (*c*) Incision of abscess | 160 |
| 14. CRANIUM :— | |
| (*a*) Decompression and treatment of fracture and haemorrhage | 8 |
| (*b*) For intracranial tumour | 1 |
| (*c*) Drainage of intracranial abscess | — |
| (*d*) Others | 3 |
| 15. SPINAL COLUMN :— | |
| (*a*) Laminectomy | 8 |
| (*b*) Bone graft | 3 |
| (*c*) Manipulation and/or external fixation (for tuberculosis, fracture and other conditions, including application of plaster jacket) | 108 |
| (*d*) Lumbar and cisternal puncture | 129 |
| (*e*) Spinal injection | 8 |
| (*f*) Others | 101 |
| 16. BONES :— | |
| (*a*) For fractures :— | |
| (i) Open operations (including bone graft, application of plates and other mechanical aids) | 94 |
| (ii) Manual and instrumental reduction and/or application of splints and plaster | 877 |
| (*b*) For osteomyelitis, osteitis and periostitis :— | |
| (i) Acute | 7 |
| (ii) Chronic (including sequestrectomy and/or application of plaster) | 58 |
| (*c*) Removal of tumours | 8 |
| (*d*) Others | 51 |
| 17. JOINTS :— | |
| (*a*) Arthrotomy :— | |
| (i) For sepsis | 13 |
| (ii) For removal of loose or foreign bodies | 28 |
| (*b*) Excision of joint | 7 |
| (*c*) Reduction of dislocation | 74 |
| (*d*) Manipulation for other purposes | 17 |
| (*e*) External fixation (including application of plaster) | 161 |
| (*f*) Aspiration | 66 |
| (*g*) Others | 31 |
| 18. AMPUTATIONS :— | |
| (*a*) Of fingers | 28 |
| (*b*) Of hand and forearm | 1 |
| (*c*) Of arm | — |
| (*d*) Of toes | 29 |
| (*e*) Of foot and leg | 24 |
| (*f*) Of thigh | 4 |
| (*g*) Others | 5 |

## TABLE III—*continued*

| *Nature of operation* | *Number performed* |
|---|---|
| 19. ARTERIES, VEINS AND NERVES :— | |
| (*a*) For aneurysm ... ... ... ... ... | 2 |
| (*b*) Ligature of vessels ... ... ... .... | 10 |
| (*c*) For angioma ... ... ... ... ... | 2 |
| (*d*) Injection of varicose veins ... ... ... | 265 |
| (*e*) Nerve suture and neurolysis ... ... ... | 18 |
| (*f*) Others upon nerves (including stretching and injection) ... ... ... ... ... | 87 |
| (*g*) Others ... ... ... ... ... ... | 32 |
| 20. ORTHOPÆDIC AND PLASTIC OPERATIONS :— | |
| (*a*) Osteotomy (for deformities) ... ... ... | 20 |
| (*b*) Other treatment of deformities and contractures (including manipulation and application of splints and plaster) ... ... ... | 592 |
| (*c*) For hare lip and cleft palate ... ... ... | 19 |
| (*d*) Upon ears, nose and lips ... ... ... | — |
| (*e*) For elephantiasis ... ... ... ... | 4 |
| (*f*) Skin graft ... ... ... ... ... | 45 |
| (*g*) Others ... ... ... .. ... ... | 73 |
| 21. CONDITIONS UNCLASSIFIED REGIONALLY :— | |
| (*a*) For ulcers (excluding skin graft) ... ... | 6 |
| (*b*) For other septic conditions (including incision of abscesses and whitlows) ... ... | 3684 |
| (*c*) Suture and treatment of wounds (including tendon suture) ... ... ... ... | 1279 |
| (*d*) Excision of superficial tumours (including cysts) ... ... ... ... ... ... | 232 |
| (*e*) Extraciion of foreign bodies ... ... ... | 189 |
| (*f*) Removal of glands ... ... ... ... | 18 |
| (*g*) For bursitis and ganglion ... ... ... | 12 |
| (*h*) Treatment of burns ... ... ... ... | 6 |
| (*i*) Removal of parasites ... ... ... ... | 10 |
| (*r*) Others ... ... ... ... ... ... | 1835 |

## *Orthopædic Surgery*

30. The resources of the Orthopædic Division were once more taxed to the uttermost in dealing with both in-patients and out-patients, particularly as the island was struck by another poliomyelitis epidemic during the year, and the following brief review is indicative of the work performed :—

### DETAILS OF WORK CARRIED OUT AT FLOREAL HOSPITAL DURING 1952

| | | |
|---|---|---|
| No. of patients in hospital 31st December 1951 ... ... | | 153 |
| No. of patients in hospital 31st Decemder 1952 ... ... | | 147 |
| 1. NEW CASES ADMITTED DURING CALENDAR YEAR 1952 | | |
| *A. Poliomyelitis* :— | | |
| (*a*) Acute cases ... ... ... ... ... | 210 | |
| (*b*) Old cases ... ... ... ... ... | 9 | |
| | —— | 219 |
| *B. Orthopædic* ?— | | |
| (*a*) Tuberculosis of skeletal system ... ... | 32 | |
| (*b*) Diseases of bones and joints ... ... ... | 52 | |
| (*c*) Injuries ... ... ... ... ... . | 14 | |
| (*d*) Congenital of deformities ... ... ... | 14 | |
| (*e*) Miscellaneous ... ... ... ... ... | 76 | |
| | —— | 188 |
| TOTAL ... ... | | 407 |

### RE-ADMISSIONS AND TRANSFERS DURING CALENDAR YEAR 1952

| | | |
|---|---|---|
| *A. Poliomyelitis* ... ... .. ... ... ... | 106 | |
| *B. Orthopædic* :— | | |
| (*a*) Tuberculosis of skeletal system ... ... | 46 | |
| (*b*) Diseases of bones and joints ... ... ... | 26 | |
| (*c*) Injuries ... ... ... ... ... ... | 44 | |
| (*d*) Congenital deformities ... ... ... ... | 5 | |
| (*e*) Miscellaneous ... ... ... ... ... | 52 | |
| TOTAL ... ... | | 279 |

### 2. OPERATIONS

| | *Major* | *Minor* | *Total* |
|---|---|---|---|
| Victoria Hospital ... ... ... | 132 | 938 | 1,070 |
| Civil Hospital ... ... ... | 26 | 10 | 36 |
| Floréal Hospital (In Patients) ... | 257 | 926 | 1,183 |
| ,, (Out Patients) ... | 42 | 1,353 | 1,395 |
| TOTAL ... | 457 | 3,227 | 3,684 |

### 3. TOTAL NUMBER OF PATIENTS WEARING INTRUMENT UNDER SUPERVISION

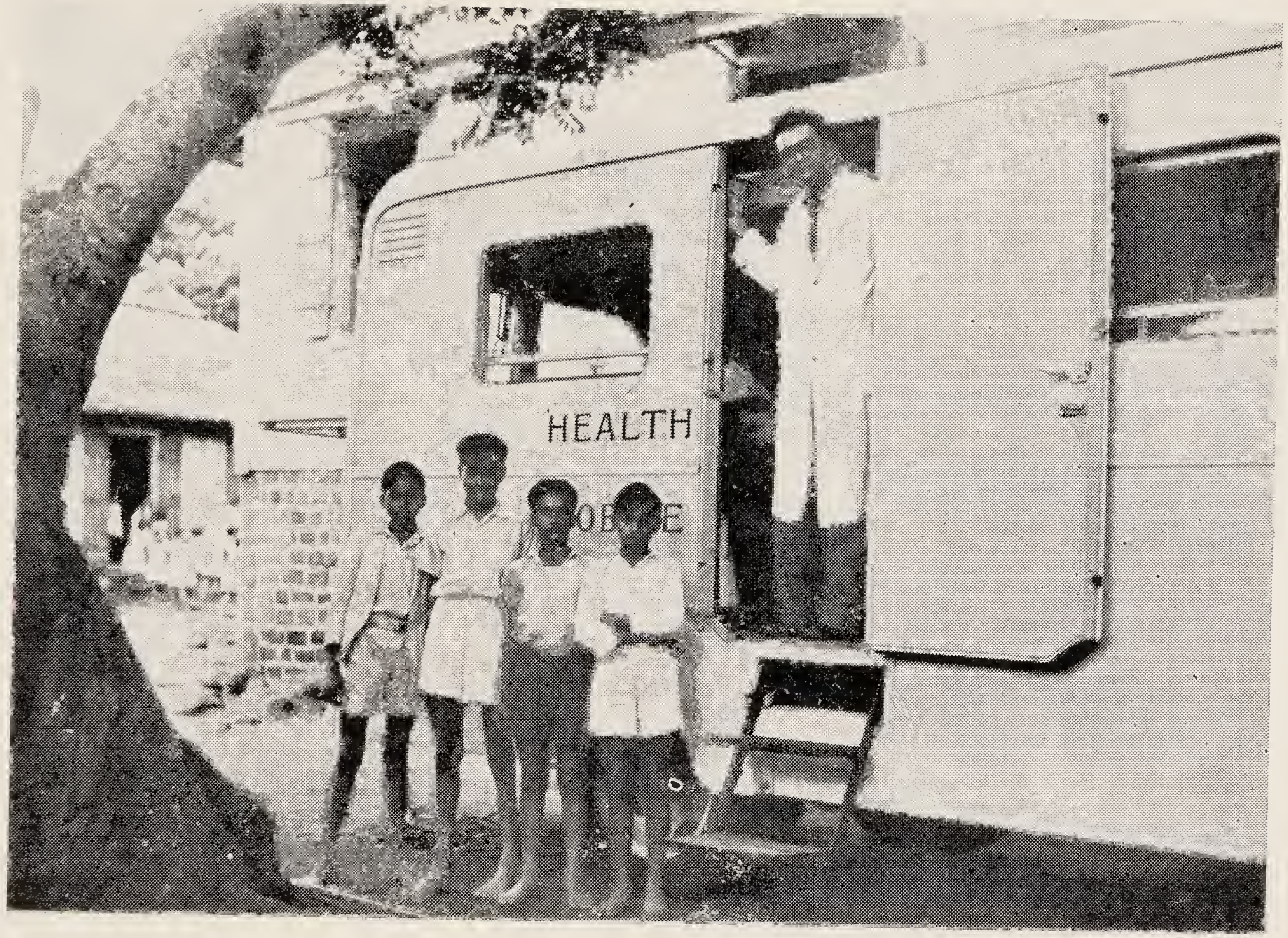
| | | |
|---|---|---|
| Polio Cases ... ... ... ... ... ... | 764 | |
| Orthopædic Cases ... ... ... ... ... | 261 | |
| TOTAL ... ... ... | | 1,025 |

### 4. ATTENDANCES OF PATIENTS AT DOCTORS' CONSULTATIONS

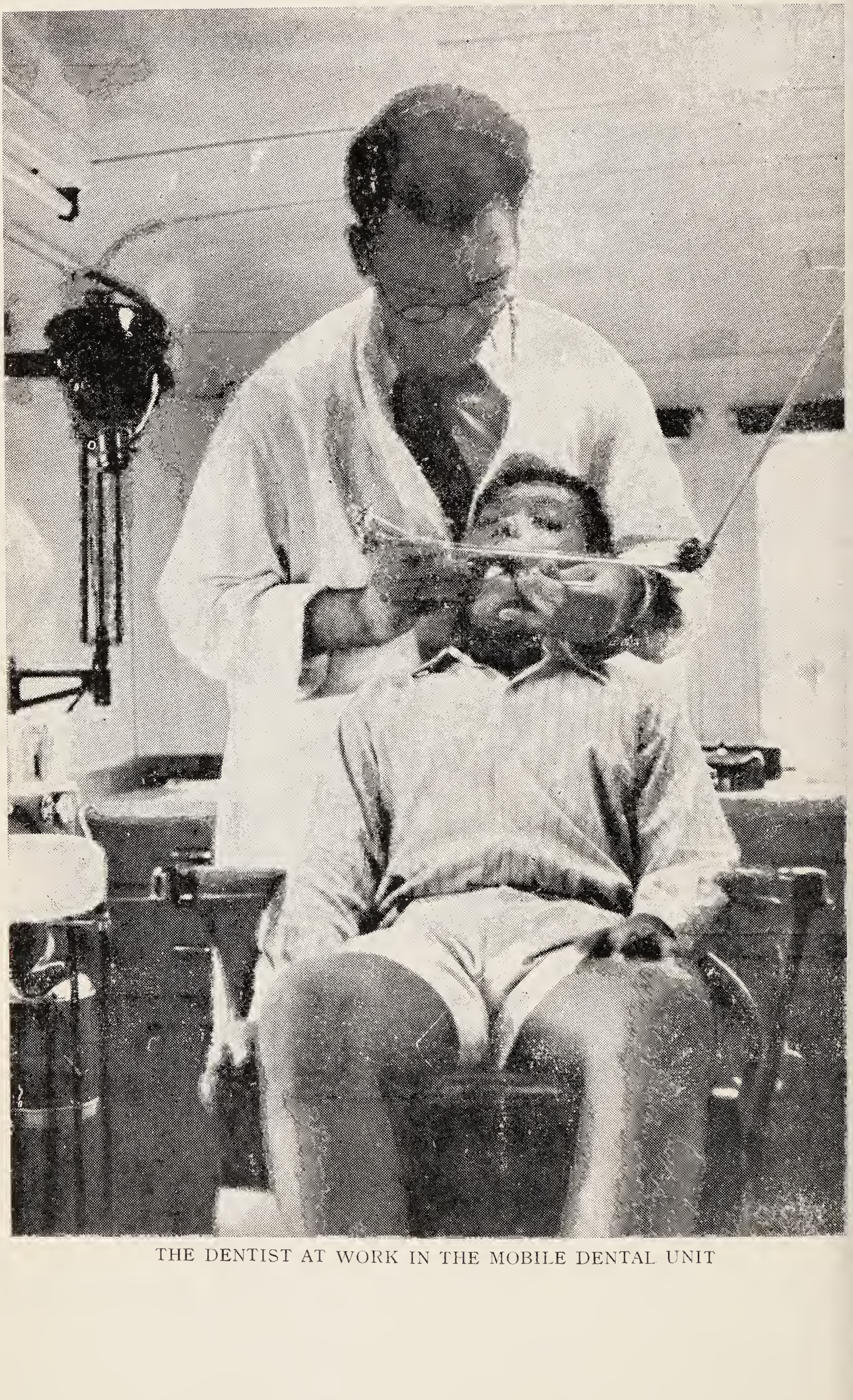
| | | |
|---|---|---|
| Attendances ... ... ... ... ... ... | 1,965 | |
| Re-Attendances ... ... ... ... ... ... | 4,539 | |
| TOTAL ... ... | | 6,504 |
| A. Attendances of Polio cases ... ... ... ... | 910 | |
| B. Attendances of Orthopædic cases :— | | |
| (*a*) Tuberculosis ... ... ... ... ... | 322 | |
| (*b*) Injuries ... ... ... ... ... ... | 2,061 | |
| (*c*) Miscellaneous ... ... ... ... ... | 4,121 | |
| TOTAL ... ... | | 6,504 |
| Distribution of attendances at :— | | |
| Floréal Hospital ... ... ... ... ... | 3,362 | |
| Victoria Hospital ... ... ... ... ... | 1,903 | |
| Civil Hospital ... ... ... ... ... | 706 | |
| District clinics ... ... ... ... ... | 533 | |
| TOTAL ... ... | | 6,504 |

### 5. ATTENDANCES AT PHYSIOTHERAPY DEPARTMENT

| | | |
|---|---|---|
| In Patients ... ... ... ... ... | 15,014 | |
| Out Patients ... ... ... ... ... | 7,586 | |
| TOTAL ... ... | | 22,600 |



MOBILE DENTAL UNIT



THE DENTIST AT WORK IN THE MOBILE DENTAL UNIT

## *Dental Work*

31. Dental treatment remains confined to pre-school children, school children, expectant and nursing mothers, selected hospital cases and, when time is available, to members of the Police Force. The services of two additional full-time dentists were secured during the year. The first one, after carrying out a survey of two schools in the Plaines Wilhems district, was posted at Victoria Hospital as from September. The other took charge of the Mobile Dental Clinic and will look after rural school children.

(i) *Civil Hospital.*—In the course of 439 sessions, treatment was given to 10,512 patients and the attendances were as follows :—

| | |
|---|---|
| School children | 7,402 |
| Casual school children | 1,128 |
| Expectant and nursing mothers | 833 |
| Hospital cases—In-Patients | 643 |
| Hospital cases—Tuberculosis | 42 |
| Hospital cases—Out-Patients | 341 |
| Police Force | 123 |

The nature of dental treatment was :—

| | |
|---|---|
| Fillings inserted in permanent teeth | 5.580 |
| Permanent teeth extracted | 654 |
| Deciduous teeth extracted | 3,283 |
| Surgical operations of jaws | 53 |
| Treatment of Parodontal disease | 530 |
| Luetic cases | 30 |
| Fracture of jaws | 25 |
| Osteomyelitis of jaws | 20 |
| Skiagrams | 15 |

(ii) *Victoria Hosptal.*—The clinic was started on the 8th September and the attendances amounted to 1,152 :—

| | |
|---|---|
| Fillings inserted in permanent teeth | 375 |
| Permanent teeth temporarily filled | 78 |
| Fillings inserted in temporary teeth | 414 |
| Permanent teeth extracted | 90 |
| Temporary teeth extracted | 345 |
| Fractures | 4 |

## *The Mental Hospital*

32. (*a*) *General.*—The total number of certified insane persons in the Colony on 31st December 1952 was 1,070, compared with 1,099 on 31st December 1951.

The distribution of the 1,070 insane persons on 31st December 1952 was as follows :—

| | *General* | | | *Indian* | | | *Chinese* | | | *Grand Total* |
|---|---|---|---|---|---|---|---|---|---|---|
| | *M.* | *F.* | *T.* | *M.* | *F.* | *T.* | *M.* | *F.* | *T.* | |
| At Mental Hospital | 165 | 145 | 310 | 156 | 116 | 272 | 17 | 10 | 27 | 609 |
| On probation leave | 86 | 83 | 169 | 149 | 88 | 237 | 6 | 2 | 8 | 414 |
| On leave under G.N. 239/24 | 17 | 15 | 32 | 10 | 5 | 15 | — | — | — | 47 |
| TOTAL | 268 | 243 | 511 | 315 | 209 | 524 | 23 | 12 | 35 | 1,070 |

The insane rate per 10,000 of the population of the island was 21·31.

The percentage sex distribution of the 1,070 certified insane was: male 56·63 and female 43·26.

(*b*) *Hospital population.*—There were 625 persons (males 348, females 277) on the 31st December 1952. Of these 10 males and 6 females were under interim order detention pending a decision as to their mental state.

The daily average number resident was 673 compared with 688 in 1951.

The maximum number resident was 698 compared with 708 in 1951.

Table showing admissions, discharges, deaths during 1952 :—

| | *Male* | *Female* | *Total* | *Male* | *Female* | *Total* |
|---|---|---|---|---|---|---|
| In hospital on 1.1.52 ... ... ... ... | 363 | 282 | 645 | 363 | 282 | 645 |
| CASES ADMITTED :— | | | | | | |
| 1st admissions ... ... ... ... | 57 | 51 | 108 | | | 556 |
| Other admissions ... ... ... ... | 157 | 80 | 237 | | | |
| From probation leave ... ... ... | 87 | 81 | 168 | | | |
| Leave under G.N. 239/24 ... ... ... | 26 | 17 | 43 | | | |
| Total cases under care ... ... ... | | | | | | 1,201 |
| CASES DISCHARGED :— | | | | | | |
| Recovered during the year ... ... | 127 | 53 | 180 | | | 576 |
| Discharged by Control Board Relieved ... | 173 | 139 | 312 | | | |
| Died during the year ... ... ... | 15 | 22 | 37 | | | |
| On leave under G.N. 239/24 ... ... | 27 | 20 | 47 | | | |
| Remaining in hospital on 31.12.52 ... ... ... ... | | | | | | 625 |

The percentage of discharges to admissions was 68. During the year 106 patients on probation leave were found cured and finally discharged by the Control Board of Commissioners in Mental Diseases.

During 1952, the number of persons who required certification was 142 (males 78, females 64) compared with 191 in 1951.

(*c*) *Causes of Insanity.*—Alcohol in a great majority of cases is a prominent causal factor. Other etiological factors are heredity and epilepsy.

(*d*) *Deaths.*—During the year there were 37 deaths (males 15 and females 22) and of these, 11 took place within one month of the patients' admission to the Mental Hospital and were mainly due to their poor state of health.

The death rate calculated on the daily average number resident was 5·49 per cent compared with 3·14 per cent in 1951.

(*e*) *Infective and allied diseases*:—During the year, there were 22 cases of dysentery, of which 20 were amœbic and 2 ill defined. There was again this year a welcome absence of malaria, but there were 2 cases of typhoid fever, 1 of which was fatal. Preventive inoculation of all patients with T.A.B. is still carried out.

(*f*) *Diseases of Nutrition.*—Eight cases of pellagra were recorded during the year.

(*g*) *Violence and Escape.*—There was one case of suicide by hanging, four patients absconded from the hospital, three of whom were recaptured soon after, but one is still at large.

The causes of injury to patients were as follows :—

| | |
|---|---|
| Accidental (among epileptics) ... | 25 |
| Inflicted by other patients ... | 45 |

Members of the staff were injured by patients on 15 occasions, but the injuries were not of a serious nature.

One patient was restrained by strait jacket on account of his destructive habits.

(*h*) *Treatment.*—Physical methods of treatment: Insulin shock and electroplexy are still the routine treatment of schizophrenics and of disorders of the affective type. 50 schizophrenics had insulin shock treatment with an average of 25 comas per patient, 40 per cent made a good recovery, others had a good social remission and were able to leave the hospital, but 28 per cent did not improve. It is proposed in the near future to start the acetylcholine treatment in the case of schizophrenics who fail to respond to Insulin therapy. Of the 220 patients suffering from disorders of the affective type and treated by electroplexy, 58 per cent made a good recovery. Of the remaining 42 per cent, 19 per cent had a good social remission, 7 per cent had a temporary improvement, but relapsed a short time after cessation of treatment and the remaining 16 per cent showed no improvement.

124 outdoor patients, mostly cases of depression, mania, and mania depressive insanity attended the hospital for E. C. T. with a total of 450 attendances.

(*i*) *Occupational Treatment.*—The usual high percentage of inmates (about 43 per cent) employed during the year was well maintained and work of great economic value was accomplished. The occupational therapy class held twice weekly is proving of great value in the rehabilitation of patients prior to their discharge from hospital and I should like here to express my appreciation to the therapists for the work they are doing.

(*j*) *Recreation.*—Both indoor and outdoor amusements are well provided throughout the year. Every week about 25 patients have an outing at the seaside, and this is very popular among them. For Christmas, there was a distribution of cakes, sweets, fruits and presents to the patients.

(k) *Accommodation.*—With the opening of the new male ward, the congestion which existed before has now been relieved, and it is hoped that the other new male ward will be built in the near future, as the number of admissions is increasing daily. On the female side, the admission ward and the infirmary were under construction.

33. The statistics of morbidity and mortality in respect of hospitals and dispensaries are given in Table IV. The statistical figures concerning the mobile dispensaries are shown separately in this table, figures for attendances being the only ones given, since the introduction of a card system has been found impraticable for the mobile units and there is consequently a considerable amount of uncertainty as regards new cases and reappearances.

The main causes of morbidity are enumerated in Table V.

### (2) DISPENSARIES

34. The construction of a new dispensary building at Petite Rivière was started and completed during the year. It is a very good building which has been planned with the object of bringing about the much desired evolution of the present type of dispensary into a rural health centre in which patients can receive modern treatment as out-patients and from which a domiciliary service including the welfare of the mother and the infant can be developed, better rural sanitation obtained and health education disseminated. The population of Mauritius is increasing at a rate which gives reason for concern and it is felt that it is beyond the financial resources of the Colony to follow the same pace and provide the number of hospital beds which would be required according to European standards. It is preferable to plan for bringing the up-to-date methods of treatment into the homes of the inhabitants at a cost which will be infinitely less than that necessitated by institutional treatment. As a corollary the maximum of available resources should be spent on preventive as opposed to curative services.

Another dispensary, similar to the Petite Rivière building, will be constructed in the populated area of Triolet in Rivière-du-Rempart district and should be ready during the second half of 1953.

35. There are now 33 static dispensaries in the Colony. The mobile service, which comprises four units under four part-time medical officers, provides for the needs of 64 villages and hamlets where it would be uneconomical to have permanent buildings. These extremely popular units made 972 trips and were attended by 137,035 patients during the year.

The total attendances at static dispensaries and at the out-patient departments attached to the hospitals numbered 379,476. The figures for the two immediately preceding years were 362,946 and 303,549.

THE FLEET OF MOBILE DISPENSARIES

THE NEW AMBULANCES OF THE HEALTH DEPARTMENT

# TABLE IV

## STATISTICS OF MORBIDITY AND MORTALITY—YEAR 1952

| | Cause Groups | Detailed List Numbers | Static Dispensaries and out-patient depts. of hospitals | | | Hospitals (in-patients) | | | | | | Mobile Dispensaries Attendances |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | New cases | | | Male patients | | Female patients | | | | |
| | | | *Male* | *Female* | *Total cases* | *New cases* | *Deaths* | *New cases* | *Deaths* | *Total cases* | *Total Deaths* | |
| A | 1. Tuberculosis of respiratory system | 001–008 | 93 | 86 | 179 | 246 | 35 | 155 | 14 | 401 | 49 | 17 |
| A | 2. Tuberculosis of meninges and central nervous system ... ... | 010 | — | — | — | 5 | 3 | 1 | — | 6 | 3 | — |
| A | 3. Tuberculosis of intestines, peritoneum and mesenterie glands ... | 011 | 2 | — | 2 | 7 | — | 6 | 1 | 13 | 1 | — |
| A | 4. Tuberculosis of bones and joints ... | 012, 013 | 3 | 4 | 7 | 32 | 2 | 14 | 2 | 46 | 4 | — |
| A | 5. Tuberculosis, all other forms ... | 014–019 | 13 | 17 | 30 | 2 | — | 7 | — | 9 | — | — |
| A | 6. Congenital syphilis ... ... ... | 020 | 16 | 9 | 25 | 2 | — | 4 | — | 6 | — | — |
| A | 7. Early syphilis ... ... ... | 021 | 105 | 115 | 220 | 7 | — | 5 | — | 12 | — | — |
| A | 8. Tabes dorsalis ... ... ... | 024 | — | — | — | — | — | — | — | — | — | — |
| A | 9. General paralysis of insane ... | 025 | — | — | — | — | — | — | — | — | — | — |
| A | 10. All other syphilis ... ... | 022, 023<br>026–029 | 228 | 295 | 523 | 79 | 4 | 70 | 1 | 149 | 5 | 1 |
| A | 11. Gonococcal infection ... ... | 030–035 | 149 | 22 | 171 | 20 | — | 6 | — | 26 | — | 4 |
| A | 12. Typhoid fever ... ... ... | 040 | — | — | — | 110 | 7 | 111 | 8 | 221 | 15 | — |
| A | 13. Paratyphoid fever and other Salmonella infections ... ... | 041, 042 | — | — | — | — | — | — | — | — | — | — |
| A | 14. Cholera ... ... ... | 043 | — | — | — | — | — | — | — | — | — | — |
| A | 15. Brucellosis (undulant fever) ... | 044 | — | — | — | — | — | — | — | — | — | — |
| A | 16.—*a*) Bacillary dysentry ... ... | 045 | 2 | 1 | 3 | 6 | — | 2 | 1 | 8 | 1 | 14 |
| | (*b*) Amœbiasis ... ... ... | 046 | 559 | 327 | 886 | 106 | — | 32 | 2 | 138 | 2 | 23 |
| | (*c*) Other unspecified forms of dysentery ... ... ... | 047, 048 | 697 | 534 | 1,231 | 50 | — | 16 | — | 66 | — | 2,641 |
| A | 17. Scarlet fever ... ... ... ... | 050 | — | — | — | — | — | — | — | — | — | — |
| A | 18. Streptococcal sore throat ... ... | 051 | — | 2 | 2 | — | — | — | — | — | — | — |
| A | 19. Erysipelas ... ... ... ... | 052 | — | — | — | 1 | 1 | — | — | 1 | 1 | — |
| A | 20. Septicæmia and pyæmia ... ... | 053 | 1 | — | 1 | 1 | — | 2 | 2 | 3 | 2 | — |
| A | 21. Diphtheria ... ... ... ... | 055 | 9 | 8 | 17 | 18 | 5 | 21 | 3 | 39 | 8 | — |
| A | 22. Whooping cough ... ... ... | 056 | 3 | — | 3 | — | — | — | — | — | — | — |
| A | 23. Meningococcal infections ... ... | 057 | — | — | — | 2 | 1 | 1 | — | 3 | 1 | — |

## TABLE IV—*continued*

### Statistics of Morbidity and Mortality—Year 1952

| | *Cause Groups* | *Detailed List Numbers* | *Static Dispensaries and out-patient depts. of hospitals* | | | *Hospitals* | | | | | | *Mobile Dispensaries attendances* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | *New cases* | | *Total cases* | *Male patients* | | *Female patients* | | *Total new cases* | *Total deaths* | |
| | | | *Male* | *Female* | | *new cases* | *deaths* | *new cases* | *deaths* | | | |
| A | 24. Plague | 058 | — | — | — | — | — | — | — | — | — | — |
| A | 25. Leprosy | 060 | — | — | — | — | — | — | — | — | — | — |
| A | 26. Tetanus | 061 | 2 | — | 2 | 58 | 26 | 37 | 20 | 95 | 46 | — |
| A | 27. Anthrax | 062 | — | — | — | — | — | — | — | — | — | — |
| A | 28. Acute poliomyelitis | 080 | — | — | — | 134 | 1 | 82 | 2 | 216 | 3 | — |
| A | 29. Acute infectious encephalitis | 082 | — | — | — | — | — | — | — | — | — | — |
| A | 30. Late effects of acute poliomyelitis and acute infectious encephalitis | 081, 083 | 1 | — | 1 | 2 | — | 8 | — | 10 | — | — |
| A | 31. Smallpox | 084 | — | — | — | — | — | — | — | — | — | — |
| A | 32. Measles | 085 | 1 | — | 1 | — | — | — | — | — | — | — |
| A | 33. Yellow fever | 091 | — | — | — | — | — | — | — | — | — | — |
| A | 34. Infectious hepatitis | 092 | 17 | 21 | 38 | 46 | 6 | 13 | 1 | 59 | 7 | 77 |
| A | 35. Rabies | 094 | — | — | — | — | — | — | — | — | — | — |
| A | 36.—(*a*) Louse-borne epidemic typhus | 100 | — | — | — | — | — | — | — | — | — | — |
| | (*b*) Flea-borne endemic typhus | 101 | — | — | — | — | — | — | — | — | — | — |
| | (*c*) Tick-borne epidemic typhus | 104 | — | — | — | — | — | — | — | — | — | — |
| | (*d*) Mite-borne typhus | 105 | — | — | — | — | — | — | — | — | — | — |
| | (*e*) Other and unspecified typhus | 102, 103<br>106–108 | — | — | — | — | — | — | — | — | - | — |
| A | 37.—(*a*) Vivax malaria (benign tertian) | 110 | 1 | 1 | 2 | — | — | — | — | — | — | — |
| | (*b*) Malariæ malaria (quartan) | 111 | — | — | — | — | — | — | — | — | — | — |
| | (*c*) Falciparum malaria (malignant tertian) | 112 | — | — | — | — | — | — | — | — | — | — |
| | (*d*) Blackwater fever | 115 | — | — | — | — | — | — | — | — | — | — |
| | (*e*) Other and unspecified forms of malaria | 113, 114<br>116, 117 | 46 | 19 | 65 | 2 | — | 1 | — | 3 | — | 165 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 38.—(*a*) Schistosomiasis vesical (S. hæmatobium) ... ... ... | 123·0 | 320 | 111 | 431 | 55 | — | 24 | — | 79 | — | 31 |
| | (*b*) Schistosomiasis intestinal (S. Mansoni) ... ... ... | 123·1 | — | — | — | — | — | — | — | — | — | — |
| | (*c*) Schistosomiasis pulmonary (S. japonicum) ... ... | 123·2 | — | — | — | — | — | — | — | — | — | — |
| | (*d*) Other and unspecified Schistosomiasis ... ... ... | 123·3 | — | — | — | — | — | — | — | — | — | — |
| A | 39. Hydatid disease ... ... ... | 125 | — | — | — | — | — | — | — | — | — | — |
| A | 40.—(*a*) Onchocerciasis ... ... ... | 127 | — | — | — | — | — | — | — | — | — | — |
| | (*b*) Loiasis ... ... ... ... | — | — | — | — | — | — | — | — | — | — | — |
| | (*c*) Filariasis (bancrofti) ... ... | — | 41 | 43 | 84 | 40 | — | 16 | — | 56 | — | — |
| | (*d*) Other filariasis ... .. ... | — | — | — | — | — | — | — | — | — | — | — |
| A | 41.—Ankylostomiasis ... ... ... | 129 | 2,565 | 3,400 | 5,965 | 325 | — | 248 | — | 573 | — | 12,768 |
| A | 42.—(*a*) Tapeworm (infestation) and other cestode infestations ... | 126 | — | 1 | 1 | — | — | — | — | — | — | — |
| | (*b*) Ascariasis ... ... ... | 130·0 | 5,250 | 5,864 | 11,114 | 69 | — | 97 | — | 166 | — | 6,056 |
| | (*c*) Gunea worm (dracunculosis) ... | 130·3 | — | 1 | 1 | 2 | — | 1 | — | 3 | — | — |
| | (*d*) Other diseases due to helminths ... ... ... | 124, 128<br>130·1, 130·2 | 1,071 | 1,251 | 2,322 | 38 | — | 27 | — | 65 | — | — |
| A | 43.—(*a*) Lymphogranuloma venereum.. | 037 | — | — | — | — | — | — | — | — | — | — |
| | (*b*) Granuloma inguinale, venereal | 038 | — | — | — | 1 | — | — | — | 1 | — | — |
| | (*c*) Other and unspecified venereal diseases ... ... ... | 039 | 3 | 1 | 4 | 2 | — | 2 | — | 4 | — | — |
| | (*d*) Food poisoning infection and intoxication ... ... ... | 049 | 3 | — | 3 | 2 | — | — | — | 2 | — | — |
| | (*e*) Relapsing fever... ... ... | 071 | — | — | — | — | — | — | — | — | — | — |
| | (*f*) Leptospirosis icterohaemorrhagica (Weil's disease) ... | 072 | — | — | — | — | — | — | — | — | — | — |
| | (*g*) Yaws ... ... ... ... | 073 | — | — | — | — | — | — | — | — | — | — |
| | (*h*) Chickenpox ... ... ... | 087 | 14 | 11 | 25 | 2 | — | — | — | 2 | — | — |
| | (*i*) Dengue ... ... ... ... | 090 | 1 | 1 | 2 | 2 | — | 1 | — | 3 | — | 2 |
| | (*j*) Trachoma ... ... ... | 095 | — | — | — | — | — | — | — | — | — | — |
| | (*k*) Sandfly fever ... ... ... | 096·7 | — | — | — | — | — | — | — | — | — | — |
| | (*l*) Leishmaniasis ... ... ... | 120 | — | — | — | — | — | — | — | — | — | — |
| | (*m*) (*a*) Trypanosomiasis gambiensis ... | 121 | — | — | — | — | — | — | — | — | — | — |
| | (*b*) Trypanosomiasis rhodesiensis ... | — | — | — | — | — | — | — | — | — | — | — |
| | (*c*) Other and unspecified Trypanosomiasis ... | — | — | — | — | — | — | — | — | — | — | — |
| | (*n*) Dermatophytosis ... ... | 131 | 24 | 47 | 71 | 8 | — | 3 | — | 11 | — | 2 |

## TABLE IV—*continued*

### STATISTICS OF MORBIDITY AND MORTALITY—YEAR 1952

| *Cause Groups* | *Detailed List Numbers* | *Static Dispensaries and out-patient depts of hospitals* | | | *Hospitals* | | | | | | *Mobile Dispensaries Attendances* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *New cases* | | *Total cases* | *Male patients* | | *Female patients* | | *Total new cases* | *Total Deaths* | |
| | | *Male* | *Female* | | *New cases* | *Deaths* | *New cases* | *Deaths* | | | |
| (*o*) Scabies ... ... ... ... | 135 | 2,013 | 1,657 | 3,670 | 60 | — | 45 | — | 105 | — | 10,419 |
| (*p*) All other diseases classified as infective and parasitic | 036,054,059<br>063,064,070<br>074,086,088<br>089,093,096·1<br>096·6,096·8,<br>096·9,122<br>132–134<br>136–138 | 135 | 45 | 180 | 42 | 1 | 17 | — | 59 | 1 | 68 |
| A 44. Malignant neoplasm of buccal cavity and pharynx ... ... | 140–148 | 2 | — | 2 | 6 | 1 | 12 | 2 | 18 | 3 | — |
| A 45. Malignant neoplasm of oesophagus | 150 | — | — | — | 6 | 2 | 6 | — | 12 | 2 | — |
| A 46. Malignant neoplasm of stomach ... | 151 | 1 | 1 | 2 | 45 | 7 | 7 | 2 | 52 | 9 | — |
| A 47. Malignant neoplasm of intestine. except rectum ... ... ... | 152, 153 | — | — | — | 3 | 1 | 2 | — | 5 | 1 | — |
| A 48. Malignant neoplasm of rectum ... | 154 | — | — | — | 7 | 2 | 2 | — | 9 | 2 | — |
| A 49. Malignant neoplasm of larynx ... | 161 | — | 1 | 1 | 1 | — | — | — | 1 | — | — |
| A 50. Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary ... ... | 162, 163 | — | — | — | 4 | 1 | 1 | 1 | 5 | 2 | — |
| A 51. Malignant neoplasm of breast ... | 170 | — | 1 | 1 | — | — | 27 | — | 27 | — | — |
| A 52. Malignant neoplasm of cervix uteri. | 171 | — | 4 | 4 | — | — | 101 | 6 | 101 | 6 | — |
| A 53. Malignant neoplasm of other and unspecified parts of uterus ... | 172–174 | — | 5 | 5 | — | — | 16 | 1 | 16 | 1 | — |
| A 54. Malignant neoplasm of prostate ... | 177 | — | — | — | 2 | — | — | — | 2 | — | — |
| A 55. Malignant neoplasm of skin ... | 190, 191 | — | — | — | 3 | — | 5 | — | 8 | — | — |
| A 56. Malignant neoplasm of bone and connective tissue ... ... ... | 196, 197 | — | — | — | 3 | 1 | 4 | — | 7 | 1 | — |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 57. Malignant neoplasm of all other and unspecified sites | 155–159, 160<br>164, 165,<br>175, 176,<br>178–181<br>192–195<br>198, 199 | 2 | 2 | 4 | 23 | 1 | 21 | 1 | 44 | 2 | — |
| A | 58. Leukæmia and aleukæmia ... ... | 204 | — | — | — | 2 | 1 | 3 | 2 | 5 | 3 | — |
| A | 59. Lymphosarcoma and other neoplasms of lymphatic and hæmatopoietic system ... ... ... | 200–203, 205 | — | — | — | 7 | 1 | 1 | — | 8 | 1 | — |
| A | 60. Benign neoplasms and neoplasms of unspecified nature ... ... | 210–239 | 47 | 68 | 115 | 42 | — | 195 | 3 | 237 | 3 | — |
| A | 61. Nontoxic goiter ... ... ... | 250, 251 | 2 | 6 | 8 | 3 | — | 8 | — | 11 | — | 5 |
| A | 62. Thyrotoxicosis with or without goiter ... ... ... ... | 252 | — | 1 | 1 | 2 | — | 4 | — | 6 | — | — |
| A | 63. Diabetes mellitus ... ... ... | 260 | 95 | 178 | 273 | 103 | 7 | 123 | 1 | 226 | 8 | 16 |
| A | 64.—(*a*) Beriberi ... ... ... ... | 280 | 1 | 3 | 4 | 1 | — | — | — | 1 | — | — |
| | (*b*) Pellagra ... ... ... ... | 281 | 8 | 30 | 38 | 1 | — | 12 | 2 | 13 | 2 | 4 |
| | (*c*) Scurvy ... ... ... ... | 282 | — | — | — | — | — | — | — | — | — | 27 |
| | (*d*) Other deficiency states ... | 283–286 | 1,121 | 2,157 | 3,278 | 111 | 19 | 87 | 10 | 198 | 29 | 4,872 |
| A | 65.—(*a*) Pernicious and other hyperchromic anæmias ... ... | 290 | 28 | 88 | 116 | 4 | — | 13 | 1 | 17 | 1 | — |
| | (*b*) Iron deficiency anæmias (hypochromic) ... ... ... | 291 | 6 | 3 | 9 | 92 | — | 188 | 1 | 280 | 1 | 2,072 |
| | (*c*) Other specified and unspecified anæmias ... ... ... | 292, 293 | 3,792 | 14,488 | 18,280 | 817 | 23 | 1,822 | 40 | 2,639 | 63 | 15,132 |
| A | 66.—(*a*) Asthma ... ... .. ... | 241 | 1,564 | 1,550 | 3,114 | 252 | 10 | 267 | 1 | 519 | 11 | 1,767 |
| | (*b*) All other allergic disorders endocrine, metabolic and blood-diseases | 240<br>242–245<br>253, 254<br>270–277<br>287–289<br>294–299 | 200 | 240 | 440 | 22 | — | 23 | 2 | 45 | 2 | 337 |
| A | 67. Psychoses ... ... ... ... | 300–309 | 1 | — | 1 | 168 | 1 | 105 | — | 273 | 1 | — |
| A | 68. Psychoneuroses and disorders of personality ... ... ... ... | 310–324, 326 | 26 | 36 | 62 | 58 | — | 34 | — | 92 | — | 13 |
| A | 69. Mental deficiency ... ... ... | 325 | 9 | 14 | 23 | 26 | — | 16 | — | 42 | — | 3 |
| A | 70. Vascular lesions affecting central nervous system ... ... ... | 330–334 | 66 | 21 | 87 | 140 | 26 | 51 | 12 | 191 | 38 | 25 |
| A | 71. Nonmeningococcal meningitis ... | 340 | — | — | — | 33 | 20 | 24 | 13 | 57 | 33 | — |
| A | 72. Multiple sclerosis ... ... ... | 345 | — | 1 | 1 | 1 | — | — | — | 1 | — | — |
| A | 73. Epilepsy .. ... ... ... | 353 | 89 | 83 | 172 | 58 | 2 | 36 | 1 | 94 | 3 | 17 |

## TABLE IV—*continued*

## STATISTICS OF MORBIDITY AND MORTALITY—YEAR 1952

| | *Cause Groups* | *Detailed list Numbers* | *Statistic Dispensaries and out-patient depts. of hospitals* | | | *Hospitals* | | | | | | *Mobile Dispensaries Attendances* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | *New cases* | | *Total cases* | *Male patients* | | *Female patients* | | *Total New cases* | *Total Deaths* | |
| | | | *Male* | *Female* | | *New cases* | *Deaths* | *New cases* | *Deaths* | | | |
| A | 74. Inflammatory diseases of eye | 370–379 | 1,838 | 1,320 | 3,158 | 138 | — | 91 | — | 229 | — | 1,176 |
| A | 75. Cataract | 385 | 195 | 261 | 456 | 130 | — | 170 | — | 300 | — | 50 |
| A | 76. Glaucoma | 387 | 12 | 8 | 20 | 6 | — | 10 | — | 16 | — | 1 |
| A | 77.—(*a*) Otitis externa | 390 | 350 | 423 | 773 | 7 | — | 12 | — | 19 | — | 1,543 |
| | (*b*) Otitis media and mastoiditis | 391–393 | 824 | 780 | 1,604 | 58 | — | 33 | 1 | 91 | 1 | 606 |
| | (*c*) Other inflamatory diseases of ear | 394 | 873 | 823 | 1,696 | 10 | — | 3 | — | 13 | — | 643 |
| A | 78.—(*a*) All other diseases and conditions of eye | 380–384<br>386–388<br>389 | 915 | 818 | 1,733 | 52 | — | 45 | — | 97 | — | 32 |
| | (*b*) All other diseases of the nervous system and sense organs | 341, 344<br>350–352<br>354–357<br>360–369<br>395–398 | 1,680 | 2,312 | 3,992 | 257 | 10 | 111 | 4 | 368 | 14 | 1,499 |
| A | 79. Rheumatic fever | 400–402 | 10 | 10 | 20 | 26 | 1 | 31 | 2 | 57 | 3 | — |
| A | 80. Chronic rheumatic heart disease | 410–416 | 1 | 4 | 5 | 6 | 1 | 5 | — | 11 | 1 | — |
| A | 81. Arteriosclerotic and degenerative heart disease | 420–422 | 27 | 32 | 59 | 77 | 26 | 67 | 20 | 144 | 46 | — |
| A | 82. Other diseases of heart | 430–434 | 217 | 344 | 561 | 120 | 14 | 102 | 22 | 222 | 36 | 356 |
| A | 83. Hypertension with heart disease | 440–443 | 21 | 10 | 31 | 14 | 1 | 4 | — | 18 | 1 | 58 |
| A | 84. Hypertension without mention of heart | 444–447 | 293 | 592 | 885 | 41 | 2 | 36 | 1 | 77 | 3 | 52 |
| A | 85. Diseases of arteries | 450–456 | 107 | 90 | 197 | 128 | 8 | 17 | 3 | 145 | 11 | 120 |
| A | 86. Other diseases of circulatory system | 460–468 | 568 | 412 | 980 | 187 | 2 | 95 | 6 | 282 | 8 | 26 |
| A | 87. Acute upper respiratory infections | 470–475 | 1,270 | 1,531 | 2,801 | 54 | — | 29 | 1 | 83 | 1 | 7,087 |
| A | 88. Influenza | 480–483 | 12,243 | 11,907 | 24,150 | 416 | — | 342 | 2 | 758 | 2 | 13,673 |
| A | 89. Lobor pneumonia | 490 | 25 | 11 | 36 | 264 | 16 | 107 | 12 | 371 | 28 | 9 |
| A | 90. Bronchopneumonia | 491 | 27 | 12 | 39 | 69 | 18 | 37 | 15 | 106 | 33 | 12 |
| A | 91. Primary atypical, other and unspecified pneumonia | 492,493 | 31 | 24 | 55 | 121 | 14 | 46 | 1 | 167 | 15 | 3 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A 93. Bronchitis, chronic and unqualified | 501, 502 | 1,749 | 1,174 | 2,923 | 359 | 14 | 230 | 3 | 589 | 17 | 707 |
| A 94. Hypertrophy of tonsils and adenoids ... ... ... ... | 510 | 446 | 632 | 1,078 | 56 | — | 58 | — | 114 | — | 68 |
| A 95. Empyema and abscess of lung ... | 518, 521 | 14 | — | 14 | 26 | 3 | 10 | — | 36 | 3 | — |
| A 96. Pleurisy ... ... ... ... | 519 | 64 | 24 | 88 | 82 | — | 41 | — | 123 | — | 7 |
| A 97.—(*a*) Pneumoconiosis ... ... | 523 | — | — | — | — | — | — | — | — | — | — |
| (*b*) All other respiratory diseases | 511–517<br>520–522<br>524–527 | 599 | 605 | 1,204 | 92 | 5 | 55 | 5 | 147 | 10 | 67 |
| A 98.—(*a*) Dental caries ... ... ... | 530 | 4,039 | 4,422 | 8,461 | 117 | — | 180 | — | 297 | — | 189 |
| (*b*) All other diseases of teeth and supporting structures ... | 531–535 | 880 | 574 | 1,454 | 53 | — | 51 | — | 104 | — | 1,088 |
| A 99. Ulcer of stomach ... ... ... | 540 | 32 | 4 | 36 | 37 | 6 | 6 | 1 | 43 | 7 | — |
| A 100. Ulcer of duodenum ... ... ... | 541 | 77 | 6 | 83 | 274 | 17 | 12 | — | 286 | 17 | — |
| A 101. Gastritis and duodenitis ... ... | 543 | 693 | 1,709 | 2,402 | 38 | — | 16 | — | 54 | — | 1,240 |
| A 102. Appendicitis ... ... ... ... | 550–553 | 48 | 99 | 147 | 175 | — | 266 | — | 441 | — | — |
| A 103. Intestinal obstruction and hernia ... | 560, 561, 570 | 128 | 32 | 160 | 260 | 9 | 34 | 6 | 294 | 15 | 4 |
| A 104.—(*a*) Gastro-enteritis and colitis between 4 weeks and 2 years | 571·0 | 1,751 | 1,397 | 3,148 | 73 | 12 | 61 | 14 | 134 | 26 | 82 |
| (*b*) Gastro-enteritis and colitis, ages 2 years and over ... | 571·1 | 1,091 | 1,006 | 2,097 | 134 | 16 | 80 | 7 | 214 | 23 | 290 |
| (*c*) Chronic enteritis and ulcerative colitis ... ... ... ... | 572 | 69 | 59 | 128 | 51 | 4 | 27 | 1 | 78 | 5 | — |
| A 105. Cirrhosis of liver ... ... ... | 581 | 1 | 1 | 2 | 33 | 1 | 23 | 4 | 56 | 5 | 2 |
| A 106. Cholelithiasis and cholecystitis ... | 584, 585 | 60 | 89 | 149 | 65 | — | 47 | 1 | 112 | 1 | 36 |
| A 107. Other diseases of digestive system | 536–539<br>542, 544, 545<br>573–580, 582,<br>583, 586, 587 | 9,349 | 10,109 | 19,458 | 570 | 17 | 325 | 12 | 895 | 29 | 6,599 |
| A 108. Acute nephritis ... ... ... | 590 | 29 | 13 | 42 | 26 | 3 | 26 | 3 | 52 | 6 | 80 |
| A 109. Chronic, other and unspecified nephritis ... ... ... ... | 591–594 | 94 | 129 | 223 | 119 | 25 | 92 | 9 | 211 | 34 | 99 |
| A 110. Infections of kidney ... ... | 600 | 23 | 57 | 80 | 23 | 1 | 15 | — | 38 | 1 | 2 |
| A 111. Calculi of urinary system ... ... | 602, 604 | 19 | 21 | 40 | 24 | — | 9 | — | 33 | — | — |
| A 112. Hyperplasia of prostate ... ... | 610 | 1 | — | 1 | 44 | 2 | — | — | 44 | 2 | — |
| A 113. Diseases of breast ... ... ... | 620, 621 | — | 244 | 244 | — | — | 57 | — | 57 | — | — |
| Y 114.—(*a*) Hydrocele ... ... ... | 613 | 145 | — | 145 | 137 | — | — | — | 137 | — | 1 |
| (*b*) Disorders of menstruation ... | 634 | — | 1,510 | 1,510 | — | — | 140 | — | 140 | — | 440 |

## TABLE IV—*continued*

### STATISTICS OF MORBIDITY AND MORTALITY—YEAR 1952

| *Cause Groups* | *Detailed List Numbers* | *Static Dispensaries and out-patient depts. of hospitals* | | | *Hospitals* | | | | | | *Mobile Dispensaries Attendances* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *New cases* | | *Total Cases* | *Male patients* | | *Female patients* | | *Total new cases* | *Total deaths* | |
| | | *Male* | *Female* | | *new cases* | *deaths* | *new cases* | *deaths* | | | |
| (*c*) All other diseases of the genito-urinary system | 601, 603<br>605–609<br>611–612<br>614–617<br>622–633<br>635–637 | 1,086 | 2,689 | 3,775 | 305 | 3 | 425 | 6 | 730 | 9 | 254 |
| A 115. Sepsis of pregnancy, childbirth and the puerperium | 640, 641, 681, 682, 684 | — | 16 | 16 | — | — | 17 | 1 | 17 | 1 | — |
| A 116. Toxaemias of pregnancy and the puerperium | 642, 652<br>685, 686 | — | 29 | 29 | — | — | 180 | 16 | 180 | 16 | — |
| A 117. Hæmorrhage of pregnancy and childbirth | 643, 644<br>670–672 | — | 7 | 7 | — | — | 60 | 7 | 60 | 7 | — |
| A 118. Abortion without mention of sepsis or toxaemia ... ... ... | 650 | — | 157 | 157 | — | — | 376 | 4 | 376 | 4 | — |
| A 119. Abortion with sepsis ... ... ... | 651 | — | 3 | 3 | — | — | 8 | — | 8 | — | — |
| A 120.—(*a*) Other complications of pregnancy, childbirth and the puerperium | 645–649<br>673–680<br>683, 687–689 | — | 3,566 | 3,566 | — | — | 631 | 36 | 631 | 36 | 452 |
| (*b*) Delivery without complications | 660 | — | — | — | — | — | 2,040 | — | 2,040 | — | — |
| A 121. Infections of skin and subcutaneous tissue ... ... ... ... | 690–698 | 7,600 | 5,118 | 12,718 | 1,020 | 2 | 506 | 4 | 1,526 | 6 | 5,257 |
| A 122. Arthritis and spondylitis ... ... | 720–725 | 438 | 482 | 920 | 126 | 1 | 107 | — | 233 | 1 | 189 |
| A 123. Muscular rheumatism and rheumatism, unspecified ... ... | 726; 727 | 3,366 | 4,396 | 7,762 | 160 | 2 | 124 | — | 284 | 2 | 10,826 |
| A 124. Osteomyelitis and periostitis ... | 730 | 12 | 5 | 17 | 50 | — | 20 | — | 70 | — | — |
| A 125. Ankylosis and acquired musculo-skeletal deformities ... ... | 737, 745–749 | 17 | 9 | 26 | 18 | — | 7 | — | 25 | — | 2 |
| A 126.—(*a*) Chronic ulcer of skin (including tropical ulcer) ... ... ... | 715 | 72 | 38 | 110 | 35 | — | 9 | — | 44 | — | 135 |
| (*b*) All other diseases of skin ... | 700–714, 716 | 2,285 | 2,270 | 4,555 | 186 | 2 | 118 | 1 | 304 | 3 | 1,606 |
| (*c*) All other diseases of musculo-skeletal system | 731–736<br>738–744 | 239 | 119 | 358 | 89 | 1 | 21 | — | 110 | 1 | 36 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A 127 Spina bifida and meningocele ... | 751 | | 1 | 2 | 3 | 1 | 7 | 1 | 10 | 2 | — |
| A 128. Congenital malformations of circulatory system ... ... ... | 754 | — | — | — | 2 | — | 1 | — | 3 | — | — |
| A 129. All other congenital malformations | 750, 752, 753<br>755–759 | 19 | 14 | 33 | 27 | 1 | 24 | — | 51 | 1 | — |
| A 130. Birth injuries ... ... ... | 760, 761 | 1 | 1 | 2 | 19 | 16 | 3 | 2 | 22 | 18 | — |
| A 131. Postnatal asphyxia and atelectasis... | 762 | — | — | — | 13 | 12 | 7 | 7 | 20 | 19 | — |
| A 132.—(*a*) Diarrhoea of newborn (under 4 weeks) ... ... ... | 764 | 6 | 4 | 10 | — | — | — | — | — | — | 107 |
| (*b*) Ophthalmia neonatorum ... | 765 | — | 1 | 1 | 5 | — | 4 | — | 9 | — | — |
| (*c*) Other infections of newborn ... | 763, 766–768 | 30 | 17 | 47 | 3 | 2 | 1 | — | 4 | 2 | 3 |
| A 133. Haemolytic disease of newborn ... | 770 | — | — | — | — | — | — | — | — | — | — |
| A 134. All other defined diseases of early infancy ... ... ... ... | 769, 771, 772 | 14 | 20 | 34 | 25 | 17 | 25 | 11 | 50 | 28 | 220 |
| A 135. Ill-defined diseases peculiar to early infancy, and immaturity unqualified ... ... ... ... | 773–776 | 14 | 18 | 32 | 37 | 33 | 52 | 49 | 89 | 82 | — |
| A 136. Senility without mention of psychosis ... ... ... ... | 794 | 49 | 100 | 149 | 28 | 7 | 30 | 4 | 58 | 11 | 50 |
| A 137.—(*a*) Pyrexia of unknown origin... | 788·8 | 1,465 | 1,493 | 2,958 | 78 | 2 | 36 | — | 114 | 2 | 16,014 |
| (*b*) Observation, without need for further medical care ... ... | 793 | 222 | 67 | 289 | 129 | — | 144 | — | 273 | — | — |
| (*c*) All other ill-defined causes of morbidity | 780–787<br>788·1–788·7<br>788·9<br>789–792<br>795 | 4,774 | 6,276 | 11,020 | 714 | 34 | 500 | 19 | 1,214 | 53 | 5,760 |
| SUB-TOTAL ... ... | | 86,031 | 106,185 | 192,216 | 11,944 | 603 | 13,132 | 484 | 25,076 | 1,087 | 136,136 |
| " E CODE ". ALTERNATIVE CLASSIFICATION OF ACCIDENTS, POISONINGS AND VIOLENCE (EXTERNAL CAUSE) | | | | | | | | | | | |
| AE 138. Motor vehicle accidents ... ... | E 810–E 835 | 161 | 30 | 191 | 301 | 21 | 69 | 3 | 370 | 24 | — |
| AE 139. Other transport accidents | E 800–E 802<br>E 840–E 866 | 655 | 69 | 724 | 175 | 4 | 26 | 2 | 201 | 6 | — |
| AE 140. Accidental poisoning ... ... | E 870–E 895 | 14 | 12 | 26 | 38 | 2 | 18 | — | 56 | 2 | — |
| AE 141. Accidental falls ... ... ... | E 900–E 904 | 3,566 | 1,086 | 4,652 | 756 | 12 | 253 | 5 | 1,009 | 17 | 286 |
| AE 142. Accident caused by machinery ... | E 912 | 124 | 2 | 126 | 37 | — | 2 | — | 39 | — | — |
| AE 143. Accident caused by fire and explosion of combustible material ... ... ... ... | E 916 | 36 | 20 | 56 | 8 | 1 | 9 | 6 | 17 | 7 | — |

## TABLE IV—*continued*

### STATISTICS OF MORBIDITY AND MORTALITY—YEAR 1952

| Cause Groups | Detailed List Numbers | Static Dispensaries and out-patient depts. of hospitals: New cases: Male | Static Dispensaries and out-patient depts. of hospitals: New cases: Female | Static Dispensaries and out-patient depts. of hospitals: Total cases | Hospitals: Male patients: new cases | Hospitals: Male patients: deaths | Hospitals: Female patients: new cases | Hospitals: Female patients: deaths | Hospitals: Total new cases | Hospitals: Total deaths | Mobile Dispensaries attendances |
|---|---|---|---|---|---|---|---|---|---|---|---|
| "E CODE"—*continued* | | | | | | | | | | | |
| AE 144. Accident caused by hot substance, corrosive liquid, steam, and radiation ... ... ... ... | E 917, E 918 | 375 | 195 | 570 | 127 | 6 | 105 | 10 | 232 | 16 | 32 |
| AE 145. Accident caused by firearm ... | E 919 | 1 | — | 1 | 3 | — | 2 | — | 5 | — | — |
| AE 146. Accidental drowning and submersion ... ... ... ... | E 929 | — | — | — | 2 | — | 1 | — | 3 | — | — |
| AE 147. Foreign body entering eye and adnexa ... ... ... ... | E 920 | 516 | 43 | 559 | 29 | — | 4 | — | 33 | — | — |
| Foreign body entering other orifice ... ... ... ... | E 923 | 135 | 92 | 227 | 9 | — | 12 | — | 21 | — | — |
| Accidents caused by bites and stings of venomous animals and insects ... ... ... ... | E 927 | 61 | 17 | 78 | 4 | — | 3 | — | 7 | — | 3 |
| Other accidents caused by animals | E 928 | 397 | 254 | 651 | 7 | — | 6 | — | 13 | — | 2 |
| AE 148. All other accidental causes | E 910–E 911<br>E 913–E 915<br>E 921–E 922<br>E 924–E 926<br>E 930–E 965<br>E 970–E 979 | 18,275 | 4,567 | 22,842 | 1,305 | 11 | 350 | 1 | 1,655 | 12 | 576 |
| AE 149. Homicide and injury purposely inflicted by other persons (not in war) ... ... ... ... | E 980–E 985 | 1,089 | 304 | 1,393 | 520 | 4 | 190 | — | 710 | 4 | — |
| AE 150. Injury resulting from operations of war ... ... ... ... | E 990–E 999 | — | — | — | — | — | — | — | — | — | — |
| TOTAL ... ... | | 111,436 | 112,876 | 224,312 | 15,265 | 664 | 14,182 | 511 | 29,447 | 1,175 | 137,035 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sub-total to A 137 *Brought forward* ... | | 86,031 | 106,185 | 192,216 | 11,944 | 603 | 13,132 | 484 | 25,076 | 1,087 | 136,136 |
| " N CODE ". ALTERNATIVE CLASSIFICATION OF ACCIDENTS, POISONINGS AND VIOLENCE (NATURE OF INJURY) | | | | | | | | | | | |
| AN 138. Fracture of skull ... ... ... | N 800–N 804 | 10 | 2 | 12 | 91 | 15 | 12 | 2 | 103 | 17 | — |
| AN 139. Fracture of spine and trunk ... | N 805–N 809 | 72 | 13 | 85 | 86 | 3 | 14 | — | 100 | 3 | — |
| AN 140. Fracture of limbs ... ... ... | N 810–N 829 | 583 | 226 | 809 | 506 | 5 | 166 | 5 | 672 | 10 | 1 |
| AN 141. Dislocation without fracture ... | N 830–N 839 | 44 | 34 | 78 | 28 | — | 15 | — | 43 | — | — |
| AN 142. Sprains and strains of joints and adjacent muscles ... ... | N 840–N 848 | 355 | 138 | 493 | 59 | 1 | 12 | — | 71 | 1 | 71 |
| AN 143. Head injury (excluding fracture)... | N 850–N 856 | 1,595 | 470 | 2,065 | 272 | 6 | 83 | 1 | 355 | 7 | 49 |
| AN 144. Internal injury of chest, abdomen, and pelvis ... ... ... | N 860–N 869 | 2 | — | 2 | 24 | 10 | 2 | — | 26 | 10 | — |
| AN 145. Laceration and open wounds ... | N 870–N 908 | 10,930 | 2,896 | 13,826 | 1,101 | 3 | 252 | 2 | 1,353 | 5 | 290 |
| AN 146. Superficial injury, contusion and crushing with intact skin surface | N 910–N 929 | 10,448 | 2,357 | 12,805 | 816 | — | 260 | — | 1,076 | — | 423 |
| AN 147. Effects of foreign body entering through orifice ... ... ... | N 930–N 936 | 642 | 133 | 775 | 27 | 1 | 14 | — | 41 | 1 | 2 |
| AN 148. Burns ... ... .. ... | N 940–N 949 | 396 | 219 | 615 | 131 | 7 | 110 | 16 | 241 | 23 | 63 |
| AN 149. Effects of poisons ... ... ... | N 960–N 979 | 17 | 12 | 29 | 71 | 6 | 45 | 1 | 116 | 7 | — |
| AN 150. All other and unspecified effects of external causes | N 950–N 959<br>N 980–N 999 | 311 | 191 | 502 | 109 | 4 | 65 | — | 174 | 4 | — |
| TOTAL ... ... | | 111,436 | 112,876 | 224,312 | 15,265 | 664 | 14,182 | 511 | 29,447 | 1,175 | 137,035 |

## TABLE V

### MAIN CAUSES OF MORBIDITY, 1952

| *Diseases* | *In-patients at hospitals* | *Out-patients at hospitals and static dispensaries* |
|---|---|---|
| Tuberculosis (all forms) ... ... ... | 475 | 218 |
| Syphilis and its sequelae ... ... ... | 167 | 768 |
| Dysentery (all forms) ... ... ... ... | 212 | 2,120 |
| Schistosomiasis ... ... ... ... | 79 | 431 |
| Filariasis ... ... ... ... ... | 56 | 84 |
| Ankylostomiasis ... ... ... ... | 573 | 5,965 |
| Ascariasis ... ... ... ... ... | 166 | 11,114 |
| Other diseases due to helminths ... ... | 65 | 2,322 |
| Scabies ... ... ... ... ... | 105 | 3,670 |
| Avitaminosis and other deficiency states ... | 212 | 3,320 |
| Anaemias ... ... ... ... ... | 2,936 | 18,405 |
| Asthma ... ... ... ... ... | 519 | 3,114 |
| Inflammatory diseases of eye ... ... | 229 | 3,158 |
| Influenza ... ... ... ... ... | 758 | 24,150 |
| Pneumonias ... ... ... ... ... | 644 | 130 |
| Bronchitis ... ... ... ... ... | 886 | 4,652 |
| Diseases of teeth and supporting structures | 401 | 9,915 |
| Gastro-enteritis and colitis (between 4 weeks and 2 years ... ... ... ... | 134 | 3,148 |
| Gastro-enteritis and colitis (2 years and over) ... ... ... ... ... | 214 | 2,097 |
| Complications of pregnancy, childbirth and the puerperium ... .. ... ... | 1,272* | 3,778 |
| Infections of skin and subcutaneous tissues | 1,874 | 17,383 |
| Muscular rheumatism and rheumatism unspecified ... ... ... ... | 284 | 7,762 |
| Accidents, poisonings and violence ... | 4,371 | 32,096 |

## (3) TRAINING OF MEDICAL AND HEALTH STAFF

### *Qualifications and conditions required*

36.—(*a*) *Doctors.*—No one can practise medicine and surgery in Mauritius unless he is the holder of either a qualification which renders him eligible for registration in the United Kingdom or a State degree in medicine delivered by any of the faculties of France.

The doctors practising in Mauritius had all, until recently, been trained in the United Kingdom or in France. In addition to the three graduates from British Commonwealth Universities whose names were registered in 1951, a graduate of the University of Hong Kong had his name added to the local register in 1952.

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* Excluding 2,040 " Deliveries without complication ".

### *Pharmacists*

(*b*) Persons authorised to practise as pharmacists in the Colony are those possessing diplomas or certificates entitling them to practise as pharmaceutical chemists or chemists and druggists, or as apothecaries in the United Kingdom, or provided with diplomas as chemists and druggists, or pharmacists from foreign Universities or Colleges, and authorised by the Governor on the recommendation of the Director of the Health Department, to act as pharmacists in the Colony; or persons who obtain a Colonial diploma of pharmacist under the provisions of the Pharmacy Ordinance 1912.

(*c*) *Dentists.*—The conditions governing the practice of dentistry are identical to those applicable to doctors. The majority of the dentists have qualified in the United Kingdom.

(*d*) *Nurses and Midwives* must be registered at the Medical and Health Department before being allowed to practise. Only those trained in Great Britain and in Mauritius are eligible for registration.

(*e*) *Sanitary Inspectors* are employed by the Department and the Local Authorities. Only those trained in Great Britain and in Mauritius are employed.

37.—(*a*) *Institutions for the training of medical and heallh staff.* There are no facilities available locally for training doctors and dentists.

(*b*) Persons wishing to obtain the local diploma of pharmacist study under private tuition and have to pass an examination, the subjects of which are fixed by regulations framed under the Pharmacy Ordinance, 1912. The prospective candidate must, however, fulfil the following conditions: he must have been registered as a Student and served as apprentice for a full period of 4 years to one or more pharmacists before he is allowed to sit for the examination for assistant pharmacists and, afterwards, for a full period of 2 years as assistant pharmacist to one or more pharmacists before he is allowed to sit for the final examination which qualifies him to practise as a pharmacist.

(*c*) The training of the nursing staff has, since 1948, been raised to a standard much higher than that accepted in pre-war days. The course of training which was limited to two years including midwifery, has been extended to three years for the general nursing certificate with an additional year for the midwifery certificate. The examinations are set on a syllabus which is very similar to the British one and the object of reciprocity with Great Britain is constantly kept in mind. The educational standard of nursing students varies from the local Sixth Standard to the Cambridge School Certificate and in some cases they are given an educational test prior to enlistment. The two training schools are at Victoria and Civil Hospitals.

(*d*) In the case of midwives, who are also trained at Civil and Victoria Hospitals, the course of training extends over 18 months, one third of that time being spent on the District Midwifery Service.

(*e*) There were 259 nursing students and 18 pupil midwives in training on 1st January 1952 and the following table indicates the numbers successfully completing their training during the past three years.

| | *Nurses* | *Dressers* | *Midwives* |
|---|---|---|---|
| 1949... ... ... | 4 | — | — |
| 1950... ... ... | 6 | 19 | 4 |
| 1951... ... ... | 5 | 25 | 14 |
| 1952... ... ... | 14 | 16 | 8 |

After passing their final examination, nurses and midwives are generally employed by the Department where they acquire additional experience. Subsequently some resign to go into private practice or to join the staff on sugar estate hospitals.

During the year, two of the nursing students who had been undergoing training in the United Kingdom returned after having qualified as State Registered Nurse.

(*f*) Sanitary Inspectors are trained during 18 months on a syllabus similar to the one of the Royal Sanitary Institute. The minimum educational qualification required for their enlistment as Sanitary Cadet is the Cambridge School Certificate. After passing their final examination, they are all employed by the Medical and Health Department.

# PART V

## Public Health

### I. VITAL STATISTICS

38. The following table is a summary of vital statistics for the year 1952 :—

Area of Mauritius : 720 square miles

| | *Males* | *Females* | *Total* |
|---|---|---|---|
| Census population as on 30th June, 1952 ... | 252,064 | 249,405 | 501,469 |
| Density per square mile : 696 ... ... ... | — | — | — |
| Marriages : 4,094 ... ... ... ... ... | — | — | — |
| Marriage rate per 1,000 population : 16·3 ... | — | — | — |
| Live-births ... ... ... ... ... | 12,224 | 11,896 | 24,120 |
| Live-births per 1,000 population : 48·1 ... | — | — | — |
| Still-births : 1,575 ... ... ... ... | — | — | — |
| Still birth rate per 100 live births : 6·5 ... | — | — | — |
| Deaths ... ... ... ... ... ... | 3,866 | 3,581 | 7,447 |
| Crude death rate per 1,000 population : 14·8 ... | — | — | — |
| Maternal deaths : 82 ... ... ... ... | — | — | — |
| Maternal mortality rate per 1,000 births (live and still) : 3·19 ... ... ... ... | — | — | — |
| Infant mortality (under 1 year of age) ... | 1,079 | 869 | 1,948 |
| Infant mortality rate per 1,000 births : 80·8 ... | — | — | — |
| Deaths from Pulmonary Tuberculosis ... ... | 120 | 76 | 196 |
| Death rate from pulmonary tuberculosis per 1,000 population : 0·39 ... ... ... | — | — | — |
| Deaths from other forms of tuberculosis ... | 3 | 2 | 5 |
| Death rate from other forms of tuberculosis per 1,000 population : 0·01 ... ... | — | — | — |
| Deaths from infective and parasitic diseases ... | 390 | 323 | 713 |
| Death rate from infective and parasitic diseases per 1,000 population : 1·42... ... ... | — | — | — |
| Deaths from respiratory diseases ... ... | 626 | 524 | 1,150 |
| Death rate from respiratory diseases per 1,000 population : 2.29 ... ... ... ... | — | — | — |
| Deaths from diseases of the digestive system... | 681 | 620 | 1,301 |
| Death rate from diseases of the digestive system per 1,000 population : 2·59 ... | — | — | — |
| Deaths from Malaria and Malarial Cachexia ... | 94 | 94 | 188 |
| Death rate from Malaria and Malarial Cachexia per 1,000 population : 0·37 ... | — | — | — |

### *(i) Population*

39.—*(a)* A census enumeration was made on the 29th June and after adjustments in respect of deaths and births having occurred on the 30th, the exact mid-year population of Mauritius was 501,469.

The estimated population as at 31st December, 1952 was 509,807, exclusive of the pioneers who are in military employment overseas.

The natural increase, that is due to excess of births over deaths, in 1952 was 16,673. In the general population (including Chinese) this increase was 4,915 and in the Indian 11,758, while arrivals in the Colony exceeded departures by 474 for the general population and departures exceeded arrivals by 65 in the Indian population. The density of population was 696 per square mile for the whole island.

The population at 31st December, 1952, was sub-divided as follows:—

| *Population* | *Males* | *Females* | *Total* | *No. of males per 1,000 females* |
|---|---|---|---|---|
| General (excluding Chinese) ... | 70,577 | 79,246 | 149,823 | 935 |
| Chinese ... ... ... ... | 10,573 | 7,624 | 18,197 | |
| Indian ... ... ... ... | 174,171 | 167,616 | 341,787 | 1,039 |
| TOTAL ... ... | 255,321 | 254,486 | 509,807 | 1,003 |

All the rates in this report are based on the census mid-year population of 501,469.

*(b)* There has been a remarkable increase in the population of Mauritius over the last five years. For the five-year period 1942–46 the rate of natural increase computed on the mid-year population was 7·93, for the ten-year period 1943–52, it was 21·38, and in the last five years, the rate of natural increase was 30·79 per thousand.

The graph at Figure I shows the population trend from 1933 onwards.

### (ii) *Births*

40.—*(a)* The number of live births during the year was 24,120, an increase of 1,152 on the number for 1951 and an increase of 5,855 on the yearly average number of births for the ten years preceding 1952:—

| *Population* | *Births* | | | *Male births per 1,000 female births* |
|---|---|---|---|---|
| | *Males* | *Females* | *Total* | |
| General (including Chinese) ... | 3,845 | 3,634 | 7,479 | 1,058 |
| Indian ... ... ... ... | 8,379 | 8,262 | 16,641 | 1,014 |
| TOTAL POPULATION ... | 12,224 | 11,896 | 24,120 | 1,028 |

The following are the birth rates, the two figures in brackets relating to 1950 and 1951:—

| | | |
|---|---|---|
| General population ... ... | 45·0 | (40·7 ; 42·0) |
| Indian population ... ... | 49·6 | (54·8 ; 50·5) |
| Total population ... ... ... | 48·1 | (49·7 ; 47·5) |

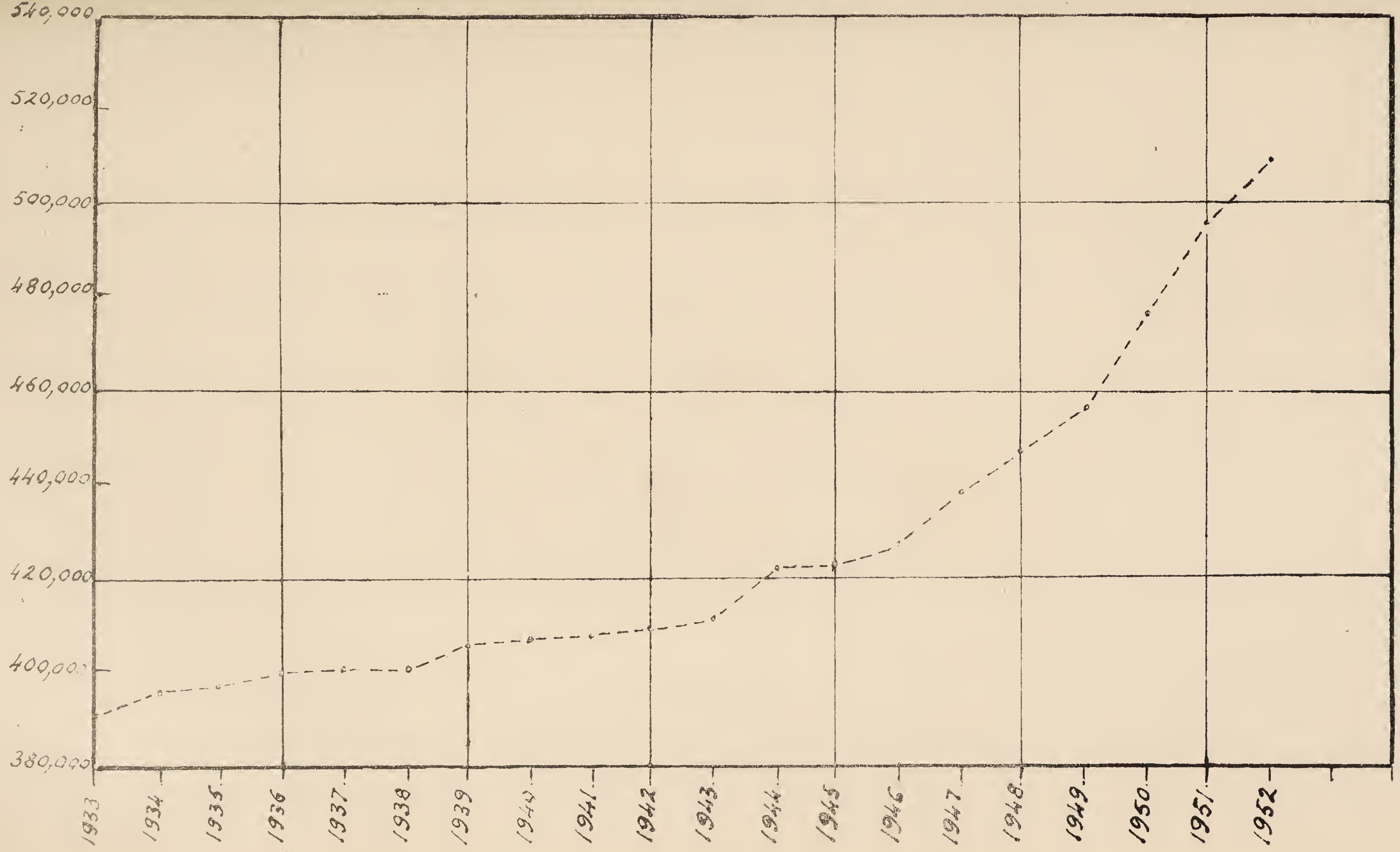
*(b)* Still-births, which are not included as either births or deaths, numbered 1,575 (852 males and 723 females) giving a rate of 6·5 per hundred live births. During the year 1951 there were 1,401 still-births which gave a rate of 6·1.

### (iii) *Deaths*

41.—*(a)* Deaths registered in Mauritius numbered 7,447, corresponding to a rate of 14·8 per 1,000 of the population. The month of maximum mortality was July with 742 deaths. In 1951 the highest figure was recorded in August with 683 deaths; in 1950 the maximum occurred in April: 619 deaths.

| | *General Population* | | *Indian Population* | | *Total* | |
|---|---|---|---|---|---|---|
| | *Males* | *Females* | *Males* | *Females* | *Males* | *Females* |
| No. of deaths ... ... | 1,383 | 1,181 | 2,483 | 2,400 | 3,866 | 3,581 |
| Rates per 1,000 ... ... | 15·4 | | 14·6 | | 14·8 | |

# TREND OF POPULATION 1933 - 1952



The average death rates for the period 1943–52 were 20·0 for the general, 23·58 for the Indian and 22·27 for the whole population.

The following table gives a comparison of the causes of death for the past five years with the rates per 1,000 of the population :—

| *Group* | *No. of deaths 1952* | *Rates per 1,000* | | | | |
|---|---|---|---|---|---|---|
| | | *1952* | *1951* | *1950* | *1949* | *1948* |
| 1. Infective and parasitic diseases ... ... ... | 713 | 1·4 | 1·8 | 2·1 | 3·60 | 9·2 |
| 2. Cancer and other tumours ... ... ... | 128 | 0·3 | 0·2 | 0·3 | 0·27 | 0·2 |
| 3. Rheumatism, diseases of nutrition ... ... | 149 | 0·3 | 0·3 | 0·2 | 0·28 | 0·3 |
| 4. Diseases of the blood and blood-forming organs. | 515 | 1·0 | 1·0 | 0·8 | 1·05 | 1·0 |
| 5. Chronic poisoning and intoxication ... ... | 1 | — | — | — | — | — |
| 6. Diseases of the nervous system and sense organs ... ... ... ... ... ... | 457 | 0·9 | 0·9 | 0·8 | 0·82 | 0·8 |
| 7. Diseases of the circulatory system ... ... | 441 | 0·9 | 0·8 | 0·9 | 0·85 | 0·6 |
| 8. Diseases of the respiratory system ... .. | 1,150 | 2·3 | 2·2 | 2·1 | 1·87 | 3·0 |
| 9. Diseases of the digestive system ... ... | 1,301 | 2·6 | 2·8 | 2·0 | 2·44 | 2·4 |
| 10. Diseases of the urinary and genital system (non-venereal or connected with pregnancy or the puerperium) ... ... ... ... | 315 | 0·6 | 0·6 | 0·6 | 0·64 | 0·6 |
| 11. Diseases of pregnancy and childbirth and the puerperal state ... ... ... ... ... | 82 | 0·2 | 0·2 | 0·2 | 0·2 | 0·2 |
| 12. Diseases of the skin and cellular tissue ... | 15 | — | 0·1 | 0·1 | 0·05 | 0·1 |
| 13. Diseases of the bones and organs of movement | 19 | — | — | 0 | 0·01 | — |
| 14. Congenital malformation ... ... ... | 11 | — | — | — | — | — |
| 15. Diseases peculiar to the 1st year of life ... | 852 | 1·7 | 1·6 | 1·7 | 1·89 | 2·3 |
| 16. Senility, old age ... ... ... ... ... | 328 | 0·6 | 0·5 | 0·4 | 0·50 | 0·6 |
| 17. Death from violence ... ... ... ... | 205 | 0·4 | 0·4 | 0·4 | 0·42 | 0·4 |
| 18. Ill-defined causes of death ... ... ... | 765 | 1·5 | 1·5 | 1·3 | 1·66 | 1·9 |

42.—(*a*) The percentage contributions to the total deaths made by the more important groups are shown below :—

| *Group* | *Percentage of total deaths Five years 1948–52* | | | | |
|---|---|---|---|---|---|
| | *1952* | *1951* | *1950* | *1949* | *1948* |
| 1. Infective and parasitic diseases ... ... | 9·6 | 11·9 | 15·1 | 21·7 | 38·5 |
| 4. Diseases of the blood and blood-forming organs ... ... ... ... ... | 6·9 | 6·7 | 5·8 | 6·4 | 4·3 |
| 6. Diseases of the nervous system and sense organs ... ... ... ... ... | 6·1 | 6·0 | 6·0 | 4·9 | 3·6 |
| 7. Diseases of the circulatory system<br>16. Senility, old age ... ... ... | 10·3 | 8·9 | 9·4 | 8·3 | 5·5 |
| 8. Diseases of the respiratory system ... | 15·5 | 14·8 | 15·1 | 11·2 | 12·5 |
| 9. Diseases of the digestive system ... ... | 17·5 | 18·5 | 14·1 | 14·7 | 10·3 |
| 15. Diseases peculiar to the first year of life ... | 11·4 | 11·0 | 12·1 | 11·4 | 9·6 |

(*b*) The decline in the percentage of mortality due to infective and parasitic diseases which had been very apparent in 1950 and 1951 continued during 1952, the principal disease responsible for this fall being malaria.

Deaths from this group of diseases which numbered 4,052 in 1948, 1,603 in 1949, 975 in 1950, 863 in 1951 fell to 713 in 1952, a figure equivalent to 1·4 per 1,000 living.

(*c*) Diseases of the respiratory system (which do not include tuberculosis) accounted for 15·5 per cent of the total deaths as compared with 14·87 per cent in 1951 and 15·15 per cent in 1950.

(*d*) The deaths due to diseases of the digestive system which include diarrhoea and enteritis fell from 1,335 in 1951 to 1,301 in 1952. The rate per 1,000 living was 2·6 as compared with 2·76 for the preceding year.

(*e*) The number of deaths due to diseases peculiar to the first year of life was 852 in 1952 as compared with 793 in 1951, 782 in 1950, 842 in 1949 and 1,009 in 1948. The rate per 1,000 living in 1952 was 1·7 as compared with 1·6 in 1951, 1·7 in 1950 and 1·9 in 1949.

(*r*) The graph at Figure II illustrates the fall in the principal death-dealing diseases for the ten-year period 1943–52.

(*g*) Table VI shows the number of deaths from the principal causes for the ten-year period 1943–52.

(*h*) The graph at Figure III is published to indicate the trend of crude birth and death rates in Mauritius from 1933 onwards.

43.—(*a*) *Diseases of pregnancy, childbirth and the puerperal state.* 82 deaths were registred in this group classified as under :—

| | |
|---|---|
| Abortion without mention of septic conditions ... ... | 2 |
| Other accidents and diseases of pregnancy ... ... | 17 |
| Puerperal toxaemias ... ... ... ... ... | 7 |
| Other accidents of a childbirth ... ... ... ... | 56 |
| TOTAL ... | 82 |

(*b*) *The maternal mortality rate.*—The number of deaths ascribed to the puerperal state per 1,000 births (including still-births) was 3.2. The rates for the previous five years were as follows :—

| | |
|---|---|
| 1947 ... | 5·25 |
| 1948 ... | 4·13 |
| 1949 ... | 3·80 |
| 1950 ... | 3·51 |
| 1951 ... | 3·20 |

## (iv) *Infant and Child Mortality*

44.—(*a*) A very satisfactory reduction in deaths from diseases of infancy has been recorded since 1949 when the mortality rate was, for the first time, reduced to a two-figure number.

The infantile mortality rate was 80·8 per 1,000 live births as compared with 83·5 in 1951, 76·3 in 1950, 91·0 in 1949 and an average of 133·0 per 1,000 over the 10–year period 1942–51.

(*b*) The deaths under five years of age were distributed as follows :—

| *Age* | *Males* | *Females* | *Total* |
|---|---|---|---|
| Under 3 months ... ... ... | 706 | 510 | 1,216 |
| 3 months and under 6 months ... | 148 | 129 | 277 |
| 6 months and under 1 year ... ... | 225 | 230 | 455 |
| 1 year and under 2 years ... ... | 207 | 223 | 430 |
| 2 years and under 3 years ... ... | 156 | 169 | 325 |
| 3 years and under 4 years ... ... | 69 | 70 | 139 |
| 4 years and under 5 years ... ... | 22 | 32 | 54 |
| TOTAL ... | 1,533 | 1,363 | 2,896 |

COLONY DEATH RATES PER 1,000 POPULATION FROM PRINCIPAL CAUSES 1943 – 1952

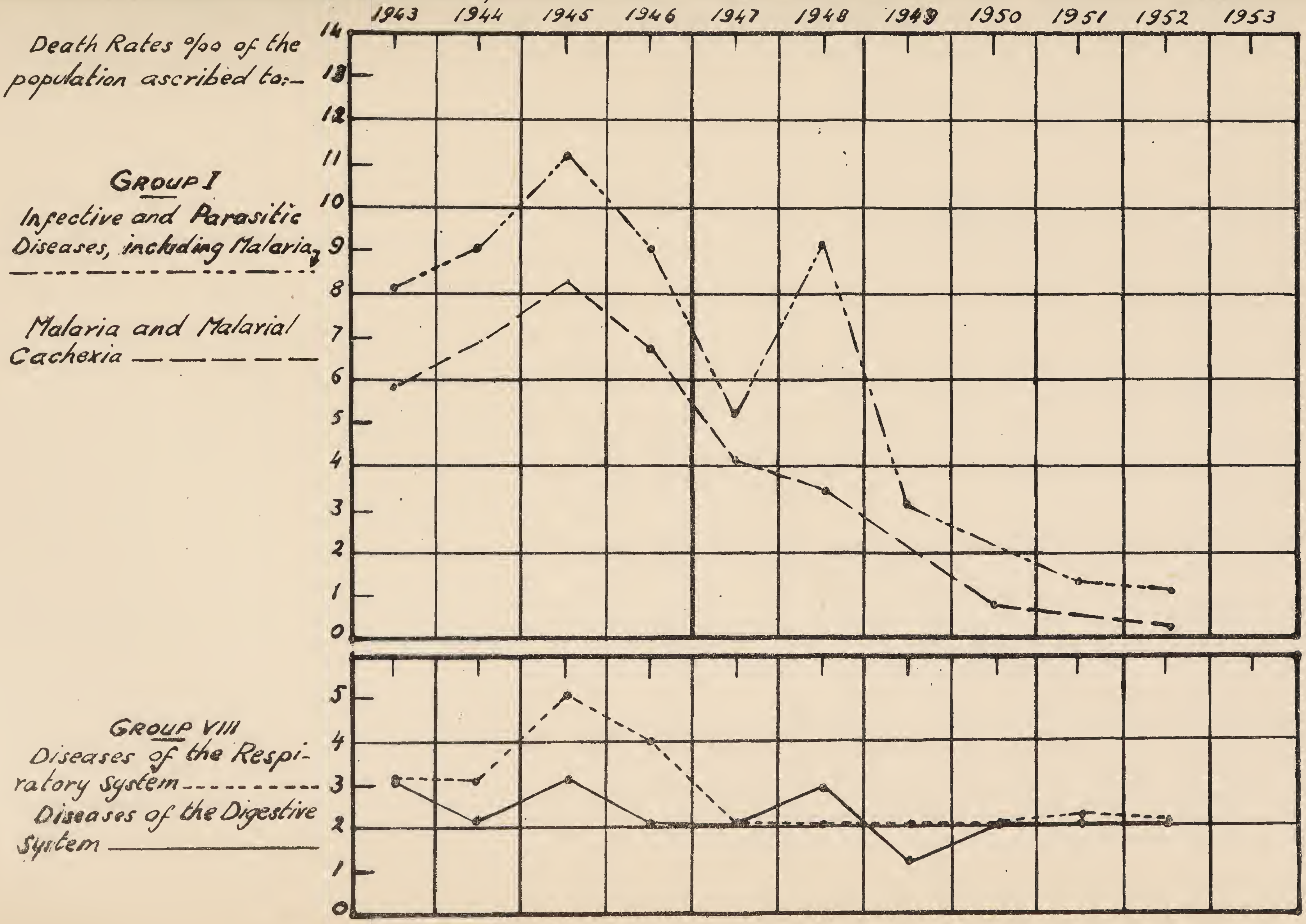
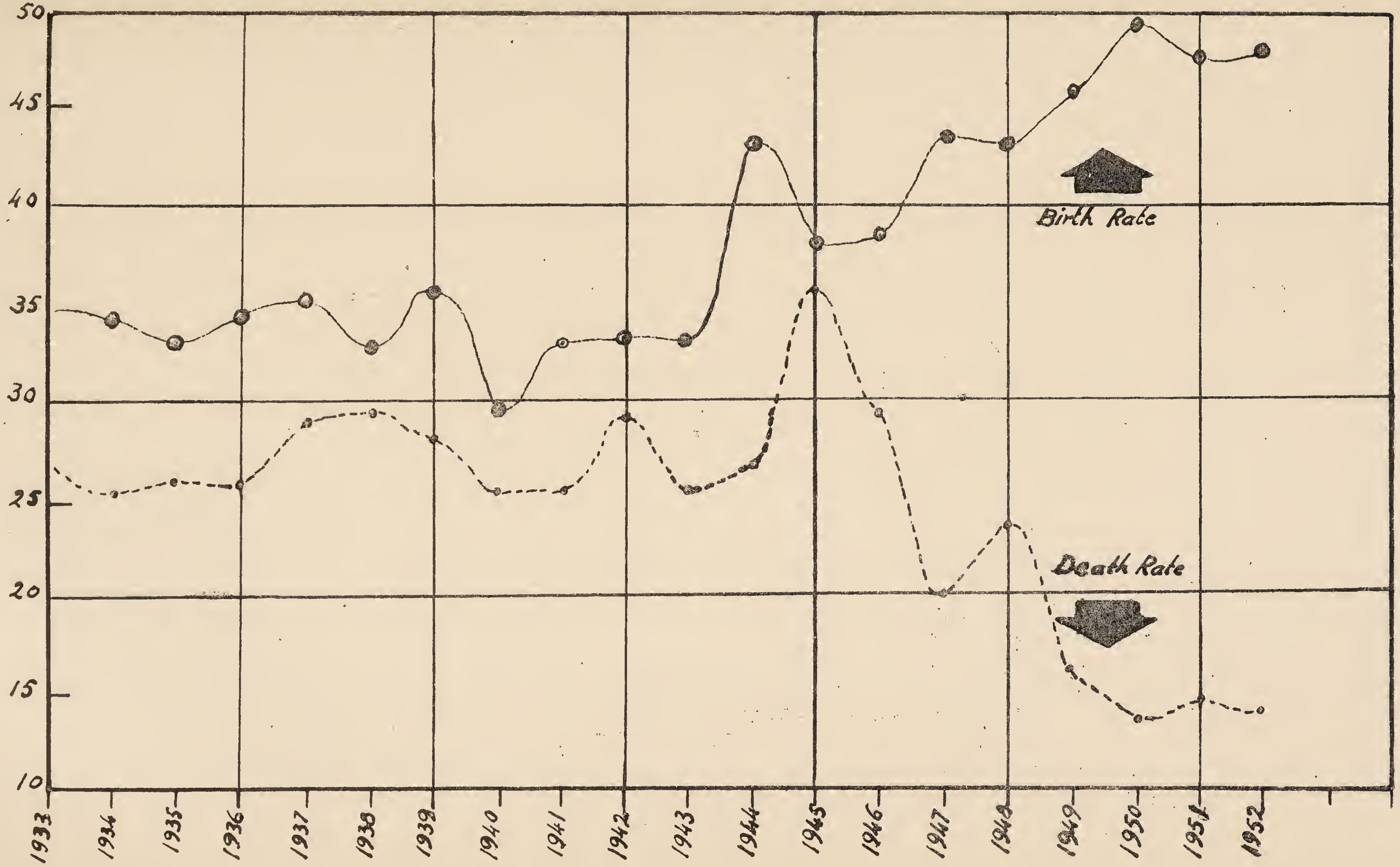


FIGURE III.

CRUDE BIRTH AND DEATH RATES 1933 — 1952



## TABLE VI

### DEATHS FROM PRINCIPAL CAUSES 1943–52—(INTERNATIONAL LIST, 1938 REVISION)

| *Year* | *Group I* | *Group II* | *Group III* | *Group IV* | *Group V* | *Group VI* | *Group VII* | *Group VIII* | *Group IX* | *Group X* |
|---|---|---|---|---|---|---|---|---|---|---|
| 1943 ... ... ... | 3,340 | 43 | 116 | 198 | 2 | 419 | 236 | 1,340 | 1,362 | 543 |
| 1944 ... ... ... | 3,807 | 57 | 123 | 255 | 2 | 412 | 249 | 1,166 | 1,344 | 470 |
| 1945 ... ... ... | 4,898 | 53 | 178 | 894 | 2 | 402 | 234 | 1,538 | 2,283 | 566 |
| 1946 ... ... ... | 3,862 | 57 | 112 | 833 | 2 | 407 | 239 | 1,138 | 1,969 | 525 |
| 1947 ... ... ... | 2,366 | 76 | 111 | 577 | 4 | 339 | 206 | 893 | 1,026 | 300 |
| 1948 ... ... ... | 4,052 | 88 | 130 | 451 | — | 378 | 294 | 1,318 | 1,078 | 262 |
| 1949 ... ... ... | 1,603 | 121 | 127 | 470 | — | 365 | 381 | 831 | 1,085 | 286 |
| 1950 ... ... ... | 975 | 122 | 103 | 378 | — | 387 | 410 | 978 | 913 | 261 |
| 1951 ... ... ... | 863 | 103 | 134 | 483 | 1 | 437 | 399 | 1,072 | 1,335 | 272 |
| 1952 ... ... ... | 713 | 128 | 149 | 515 | 1 | 457 | 441 | 1,150 | 1,301 | 315 |

GROUP I—Infective and parasitic diseases.
II—Cancer and other tumours.
III—Rheumatism, diseases of nutrition and of endocrine glands, other general diseases and deficiency diseases.
IV—Diseases of blood and blood-forming organs.
V—Chronic poisoning and intoxication.
VI—Diseases of the nervous system and sense organs.
VII—Diseases of the circulatory system.
VIII—Diseasas of the respiratory system.
IX—Diseases of the digestive system.
X—Diseases of Urinary and genital organs

## TABLE VI—*continued*

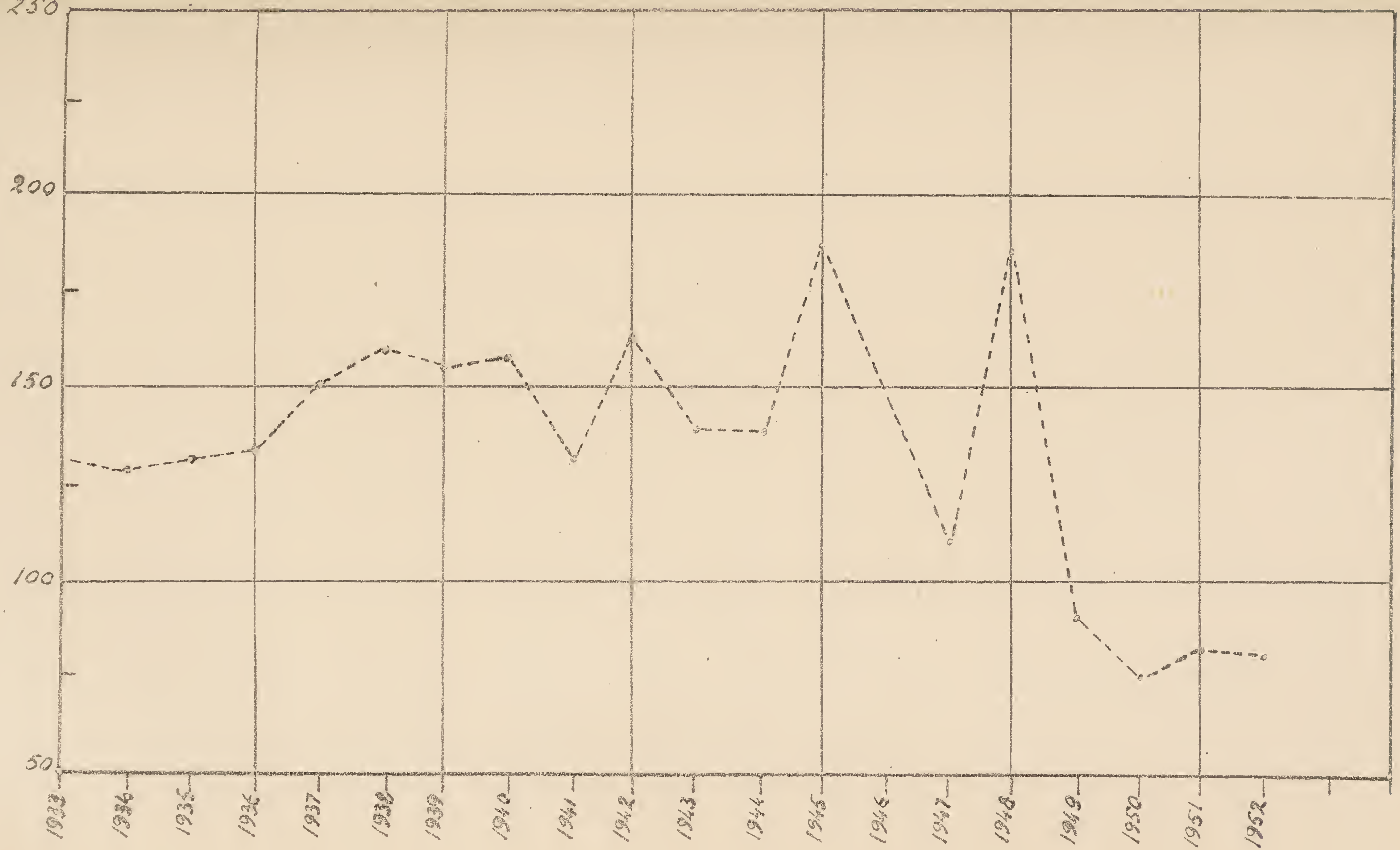
### DEATHS FROM PRINCIPAL CAUSES 1943–52

| *Year* | *Group XI* | *Group XII* | *Group XIII* | *Group XIV* | *Group XV* | *Group XVI* | *Group XVII* | *Group XVIII* | *Total Deaths* |
|---|---|---|---|---|---|---|---|---|---|
| 1943 ... ... ... | 75 | 74 | 5 | 4 | 855 | 512 | 202 | 1,316 | 10,642 |
| 1944 ... ... ... | 171 | 70 | 5 | 7 | 1,207 | 533 | 204 | 1,273 | 11,355 |
| 1945 ... ... ... | 266 | 85 | 7 | 5 | 1,427 | 583 | 239 | 1,617 | 15,277 |
| 1946 ... ... ... | 185 | 67 | 7 | 1 | 1,193 | 489 | 186 | 1,256 | 12,528 |
| 1947 ... ... ... | 106 | 47 | 3 | 6 | 1,129 | 381 | 172 | 938 | 8,680 |
| 1948 ... ... ... | 84 | 44 | 5 | 9 | 1,099 | 285 | 171 | 859 | 10,518 |
| 1949 ... ... ... | 83 | 23 |  | 5 | 842 | 226 | 189 | 741 | 7,384 |
| 1950 ... ... ... | 86 | 34 | 7 | 10 | 782 | 202 | 193 | 612 | 6,453 |
| 1951 ... .. ... | 78 | 28 | 8 | 14 | 793 | 248 | 197 | 743 | 7,208 |
| 1952 ... ... ... | 82 | 15 | 19 | 11 | 852 | 328 | 205 | 765 | 7,447 |

Group XI—Diseases of pregnancy, childbirth and the puerperal state.
XII—Diseases of the skin and cellular tissue.
XIII—Diseases of bones and organs of movement.
XIV—Congenital malformation.

Group V—Diseases peculiar to the first year of life.
XVI—Senility, old age.
XVII—Death from violence.
XVIII—Ill-defined causes of death.

# TREND OF INFANT MORTALITY RATES IN MAURITIUS 1933-1952



(*c*) The principal causes of death in children under five years of age were in the following categories (International List of Causes of Death, 1938 Revision) :—

| *Group* | *Under one year* | *One year and under 5 years* |
|---|---|---|
| 1. Infective and parasitic diseases ... ... ... | 147 | 135 |
| 3. Rheumatism, diseases of nutrition, etc.... ... | 16 | 27 |
| 4. Diseases of the blood and blood-forming organs | 12 | 59 |
| 6. Diseases of the nervous system and sense organs | 31 | 30 |
| 8. Diseases of the respiratory system ... ... | 287 | 184 |
| 9. Diseases of the digestive system ... ... | 487 | 382 |
| 10. Diseases peculiar to the first year of life ... | 852 | — |
| 17. Deaths from violence ... ... ... ... | 6 | 24 |
| 18. Ill-defined causes of death ... ... ... | 89 | 121 |

The total number of deaths of children under one year of age was 1,948 and of those of one year and under five years 948.

(*d*) The infant mortality rate is an important figure in vital statistics and its trend is therefore closely recorded and scrutinised. It is a fairly accurate index of the social circumstances, of the health conditions in an area and the general standard of medical care provided by the health services : for this reason a graph indicating the trend of infant mortality rate in Mauritius from 1933 onwards is given at Figure IV.

Bearing the above in mind, it is clear that progress has been achieved when it is remembered that 30 years ago the infant mortality rate was 176·7 and that it was only in 1949 that the figure of 91 was attained.

However pleased I am in drawing attention to a not unsatisfactory state of affairs, I must insist that there can be no room for complacency and Government Departments, Local Authorities, Voluntary Organizations and individuals whose solicitude lies in the field of infant welfare must increase their efforts so as to reach the lower rates now reported from other countries lying like Mauritius within the tropical belt.

I know that there is an acute shortage of midwives and nurses and that for this reason, it has not yet been possible to organize a complete district service, which incidentally, must include health visitors. The first objective is to make up the deficiency and train bodies as fast as circumstances will permit.

### (v) *Marriages*

45. The number of marriages celebrated during the year was 4,094. The marriage rate which is expressed as the number of persons married per thousand of the population was 16·3 as compared with 12·7 in 1951, 13·1 in 1950, 16·3 in 1949 and 14·7 in 1948.

The following table shows births, still-births, death rates, marriage rates and natural increase of the population and is intended to supply comparative data for the last ten years :—

| | | *Comparative Birth* | | *Still-Birth* | *Death and Marriages Rates 1943–52* | | | |
|---|---|---|---|---|---|---|---|---|
| *Year* | *Live Births* | *Rate per 1,000 population* | *No. of Still Births* | *Rate per 1,000 total births* | *Infant mortality rate* | *Total death rate* | *Marriage rate per 1,000 population* | *Natural increase of population* |
| 1943 ... | 13,604 | 33·2 | 991 | 7·3 | 141·6 | 25·9 | 15·0 | 2,962 |
| 1944 ... | 18,258 | 43·5 | 1,319 | 7·2 | 141·0 | 27·1 | 13·0 | 6,903 |
| 1945 ... | 16,290 | 38·5 | 1,484 | 9·1 | 188·0 | 36·1 | 12·0 | 1,013 |
| 1946 ... | 16,427 | 38·7 | 1,374 | 8·4 | 145·2 | 29·5 | 18·1 | 3,899 |
| 1947 ... | 18,926 | 43·8 | 1,277 | 6·7 | 113·9 | 20·1 | 17·5 | 10,246 |
| 1948 ... | 19,039 | 43·1 | 1,316 | 6·9 | 186·2 | 23·8 | 14·7 | 8,521 |
| 1949 ... | 20,472 | 46·0 | 1,364 | 6·7 | 91·0 | 16·6 | 16·3 | 13,088 |
| 1950 ... | 23,110 | 49·7 | 1,410 | 6·1 | 76·3 | 13·9 | 13·1 | 16,657 |
| 1951 ... | 22,968 | 47·5 | 1,401 | 6·1 | 83·5 | 14·9 | 12·7 | 15,760 |
| 1952 ... | 24,120 | 48·0 | 1,575 | 6·5 | 80·8 | 14·8 | 16·3 | 16,673 |

## II. Public Health

### (i) COMMUNICABLE AND INFECTIOUS DISEASES

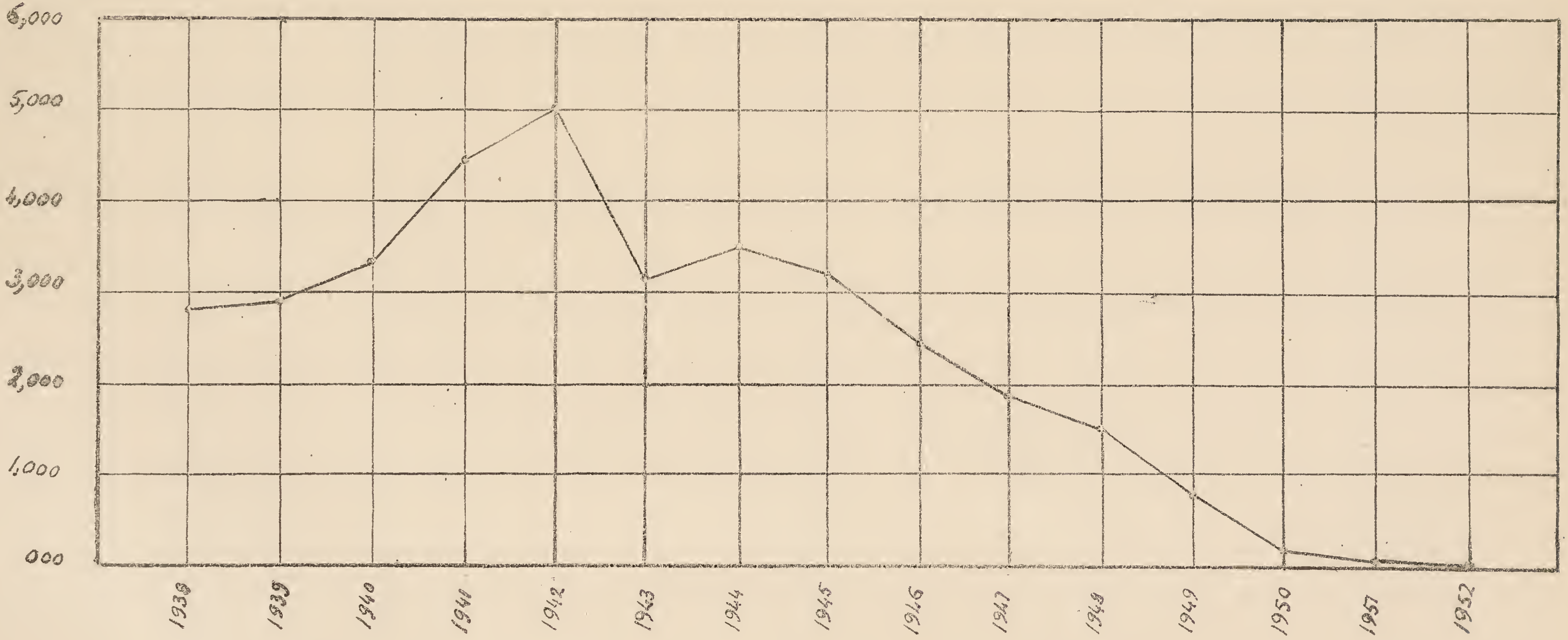
46. *Malaria and anti-malarial measures.*—One of the greatest achievements of the public health service in the history of Mauritius is represented by the reduction to such negligible proportions of the disease malaria that it has ceased to be an economic problem to the island. Malaria, which until a few years ago, caused the death of from 5 to 6 per thousand of the population each year, now accounts for about 1 per 3,000, while admissions to hospital because of that disease which used to average 3,000 per annum amounted only to 3 in 1952, as compared with 98 in 1951, 209 in 1950 and 804 in 1949. The deaths ascribed to the disease per 1,000 living from 1945–52 were as shown in Table VII :—

TABLE VII

| *Year* | *Deaths ascribed to malaria* | *Rate per 1,000 population* | *Percentage of deaths due to malaria to total deaths* |
|---|---|---|---|
| 1945 ... | 3,534 | 8·34 | 23·13 |
| 1946 ... | 2,918 | 6·88 | 23·29 |
| 1947 ... | 1,782 | 4·12 | 20·53 |
| 1948 ... | 1,580 | 3·58 | 15·02 |
| 1949 ... | 936 | 2·11 | 12·68 |
| 1950 ... | 388 | 0·83 | 6·01 |
| 1951 ... | 285 | 0·59 | 3·95 |
| 1952 ... | 188 | 0·37 | 2·52 |

FIGURE V.

ADMISSIONS TO HOSPITAL – MALARIA – 1938 – 1952



The hospital figures being the most accurate that can be given, the following table VIII is published to indicate the number of malaria cases treated in the hospitals for period 1942–52 and the graph at Figure V to demonstrate the reduction in hospital admissions since 1938 :—

## TABLE VIII

| *Year* | | *Cases of malaria treated in hospital* | *Deaths in hospital* | *Case Mortality %* |
|---|---|---|---|---|
| 1942 | ... | 5,014 | 110 | 2·49 |
| 1943 | ... | 3,215 | 81 | 2·52 |
| 1944 | ... | 3,512 | 104 | 2·96 |
| 1945 | ... | 3,244 | 148 | 4·57 |
| 1946 | ... | 2,522 | 106 | 4·20 |
| 1947 | ... | 1,989 | 76 | 3·82 |
| 1948 | ... | 1,576 | 66 | 4·19 |
| 1949 | ... | 804 | 43 | 5·35 |
| 1950 | ... | 209 | 10 | 4·78 |
| 1951 | ... | 98 | 4 | 4·08 |
| 1952 | ... | 3 | — | — |

47. Full-scale routine house-spraying with D.D.T. in the coastal zones of the island which had begun in August 1951 continued until May 1952. The following shows the details for the period 1st January to May 1952 :—

| *District* | | *No. of houses* | *No. of rooms* | *No. of gallons of solution used* |
|---|---|---|---|---|
| A ... | ... | 4,789 | 23,725 | 8,676 |
| B ... | ... | 7,094 | 39,959 | 17,031 |
| C ... | ... | 16,749 | 72,656 | 25,467 |
| D ... | ... | 3,798 | 16,504 | 5,838 |
| E ... | ... | 5,129 | 25,370 | 8,684 |
| TOTAL | ... | 37,559 | 178,214 | 65,696 |

In September, it was decided that the five districts for house-spraying purposes should be redivided as under :—

*District I.*—Coastal areas of Black River district and Plaines Wilhems district to be sprayed twice in one season with B. H. C.

*District II.*—Coastal areas of Port Louis and Pamplemousses districts to be sprayed twice in one season with B. H. C.

*District III.*—Coastal areas of Rivière du Rempart and Flacq districts to be sprayed once in a season using D.D.T. wettable powder for the majority of buildings and Supona D for better-class houses.

*District IV.*—Coastal areas of Savanne and Grand Port districts on the lines of District III.

The spraying commenced in October and details from October to 31st of December are given hereunder :—

| *District* | *No. of houses* | *No. of rooms* | *No. of gallons of solution used* |
|---|---|---|---|
| I ... ... | 6,196 | 32,645 | 10,791 |
| II ... ... | 7,144 | 36,884 | 10,129 |
| III ... ... | 11,200 | 44,615 | 13,037 |
| IV ... ... | 6,314 | 31,411 | 10,581 |
| TOTAL ... | 30,854 | 145,555 | 44,538 |

48. The programme of permanent works continued to be followed in the districts of Port Louis, Pamplemousses, Moka and Plaines Wilhems and a summary of the principal items attended to is given hereunder :—

PORT LOUIS :—

Hussard Drain concreted on a length of 436′

*Terre Rouge River.* Canalised and concreted on a length of 2,656′

*Bruniquel Bridge (Roche Bois).* Canalised and concreted on a length of 1,480′

*Bazire Bridge (Ste. Croix)* Plastering sides and concreted on a length of 275′

*Lataniers River.* Removal of 21,704 cubic feet of sediment.

*Marshes.* Filling and levelling : 21,704 cubic feet.

PAMPLEMOUSSES :—

*St. Louis stream.* Unblocking, digging, and canalization done on a length of 6,475′.

*Mon Gout.* Canalization has been done along the main and side drains and the work will be completed shortly.

*Madame Cooney Drain.* Canalised and bottom of drain paved on a length of 1,232′.

*Powder Mills Drain.* A drain of 990′ has been dug and canalized (work completed).

*Pamplemousses Village.* Several drains of a total length of 4,236′ have been dug and canalized, and in the Botanical Gardens about 1 acre of marshes has been filled.

MOKA :—

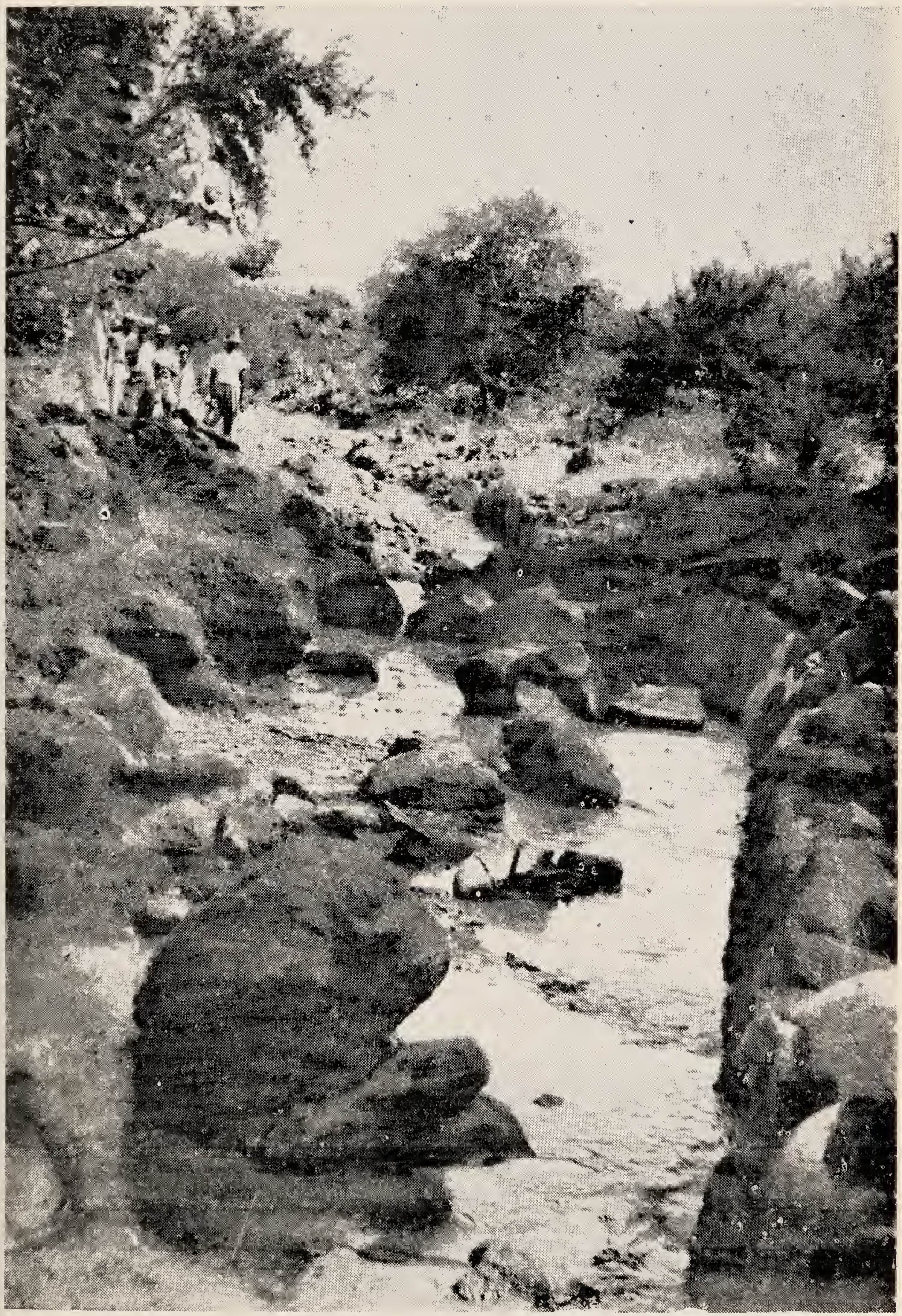
*Agrement and Chaillet.* Canalised and bed concreted on a length of 785′.

*Balmano River.* Cleaning banks and unblocking bed of river.

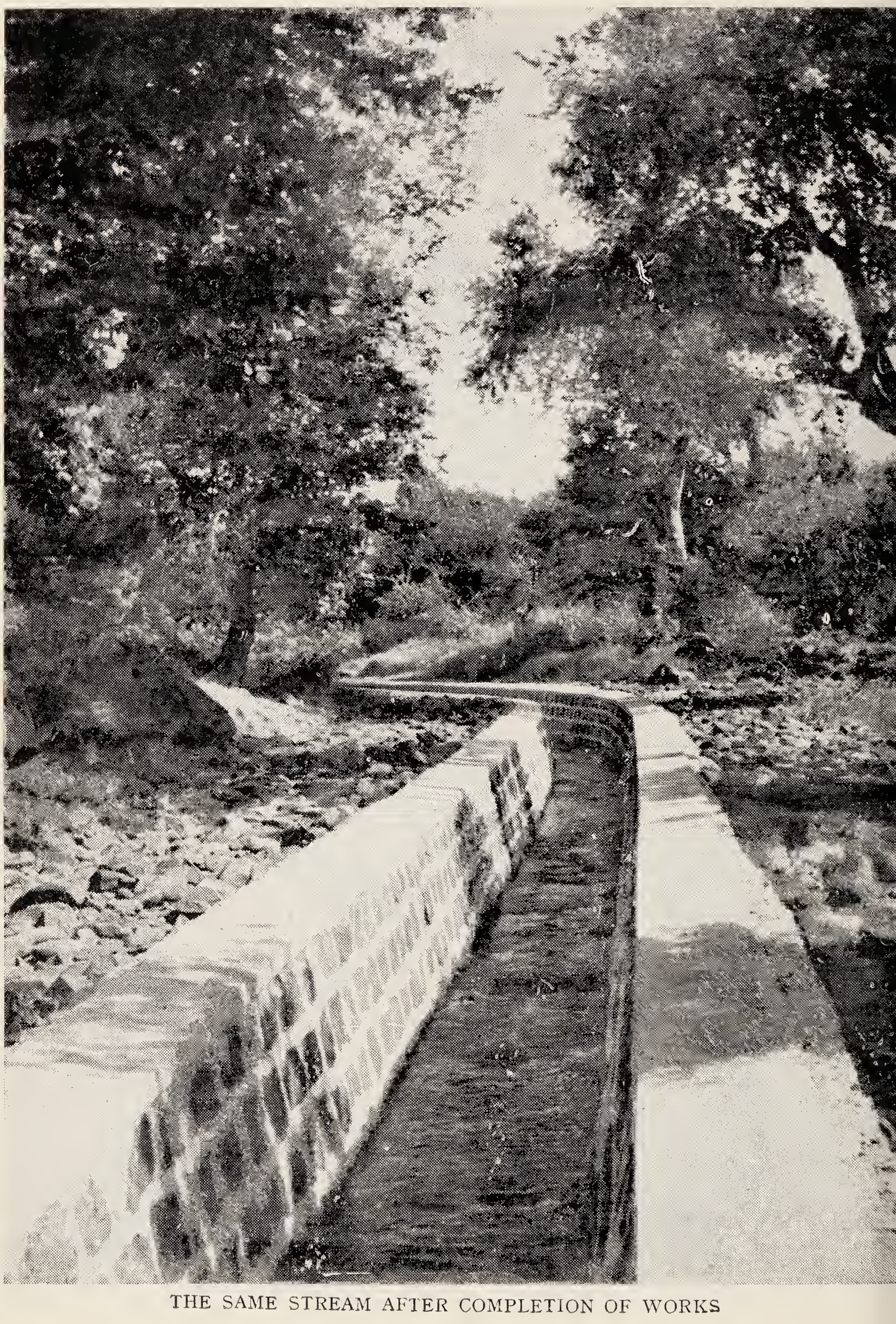
*Reduit Section.* Paving bed of several drains on a total length of 17,295′.

*Bonham Canal.* Paving bed on a length of 3,140′.

*Verdun and Dagotière.* Unblocking, digging drains and canalization done.



A NOTEWORTHY BREEDING PLACE OF *Anopheles gambiæ* BEFORE ENGINEERING WORKS



THE SAME STREAM AFTER COMPLETION OF WORKS

PLAINES WILHEMS :—

*Forest Side Marshes.* Works completed.

*La Louise Collector.* Nearly completed.

*Le Bosquet.* Major repairs after the flood.

*Reunion Drain.* New work under progress.

49. An important part of the Malaria Eradication Scheme was the maintenance of adequate scientific personnel to watch developments.

The items which follow cover the duties of this essential part of the scheme :—

(*a*) *Infant Survey.* This survey, which began in September 1949 and has contiuued since, involves the examination of all children born in the coastal districts, since spraying was carried out in the area of their residence. This is a vital examination in that it provides direct evidence of the absence or presence of transmission. The discovery of a positive case of malaria signifies that the disease must have been transmitted recently. From this survey, it has become evident that there has been practically no transmission throughout the island during the epidemic season of 1952, with the exception of the district of Black River. In this district, transmission is on a diminished scale from previous years and has now practically ceased.

The fourth survey which had started in September 1951, was completed in May 1952. A total of 14,393 slides were taken and eight blood smears were found positive. Of these 8 positive smears, six came from Black River district and one each from Rivière du Rempart and Grand Port districts.

*Summary of the first four Infant Surveys*

| *Period* | | *No. of children examined* | *No. of positives* |
|---|---|---|---|
| 1ST SURVEY :— | | | |
| 14.10.49 to 7.3.50 | ... | 2,612 | 7 |
| 2ND SURVEY :— | | | |
| 9.3.50 to 29.12.50 | ... | 5,744 | 14 |
| 3RD SURVEY :— | | | |
| 3.1.51 to 26.9.51 | ... | 10,493 | 8 |
| 4TH SURVEY :— | | | |
| 27.9.51 to 19.5.52 | ... | 14,393 | 8 |

The 5th survey began on the 20th of May and continned throughout the year. To date, 13,575 children under the age of three years have been examined without a single malaria case being found.

All positive cases found are treated by the Infant Survey Staff and all treated cases are followed up one, three and six months after treatment. The routine treatment which has been administered has been that recommended by the World Health Organization at the Malaria Conference at Kampala, Uganda in December 1950.

(*b*) *Mobile Malaria Survey Unit.*—The work of this Unit continued. All positive cases found in other surveys, all notifications from hospitals and dispensaries, and all official notifications by doctors, sugar estates and individuals throughout the island are fully investigated. This is a team working from the headquarters of the Malaria Organization and a number of vans are available for the purpose. Any suspected case is examined and the history carefully taken so that, in the event of a positive being found, some idea can be obtained as to whether the case is a fresh one or a relapse. At the same time slides are taken from relatives, contacts and people living in the area so that any further cases may be picked up in the course of the investigation. It is frequently discovered that the suspected case has spent previously a few days on the sea coast, generally in the Black River district. In these circumstances, the team visits the area in which the patient stayed and further blood slides are taken from the inhabitants. When there are no notifications to be investigated, the Unit pays regular visits to areas in which transmission has been reported as having occurred recently, or in which it is considered that fresh transmission might occur in unfavourable conditions. Blood slides are taken from a representative sample of the population and in this way early evidence can be obtained of the presence of fresh carriers.

The accent being now on the human carrier of malaria rather than on the mosquito, it is important to find fresh carriers who come to the island. The vast majority of these are to be found among the new batallions of the King's African Rifles who arrive from the mainland of Africa, many of whom have gametocytes in the blood. Arrangements have been made with the military authorities for the examination and treatment of military personnel coming over to Mauritius.

During the year 1952, 7,086 blood smears were taken by the Unit and 33 were found positive.

*Summary of the Mobile Survey Unit's work for the last 4 years*

| *Year* | *No. of blood slides taken* | *ST* | *BT* | *QT* | *Mixed Infection* | *Unidentified* | *Total Positives* |
|---|---|---|---|---|---|---|---|
| 1949... ... ... ... | 65 | — | — | 1 | — | 1 | 2 |
| 1950... ... ... ... | 868 | 3 | 8 | 4 | — | 1 | 16 |
| 1951... ... ... ... | 2,488 | 31 | 9 | 14 | 2 | 1 | 57 |
| 1952... ... ... ... | 7,086 | 16 | 11 | 6 | — | — | 33 |

A survey was taken from the school children of the island during April. 14,500 blood smears were taken and seven were found positive.

| *District* | *No. of blood slides taken* | *ST* | *BT* | *QT* | *Total* |
|---|---|---|---|---|---|
| Port Louis ... ... ... | 2,506 | 1 | — | — | 1 |
| Plaines Wilhems ... ... | 1,323 | — | — | — | — |
| Black River ... ... | 620 | 1 | — | 1 | 2 |
| Savanne ... ... ... | 1,251 | — | — | — | — |
| Grand Port ... ... | 2,918 | — | 1 | — | 1 |
| Flacq ... ... ... | 2,897 | 1 | — | — | 1 |
| Rivière du Rempart ... | 1,252 | — | — | — | — |
| Pamplemousses ... ... | 1,733 | 1 | — | 1 | 2 |
| TOTAL ... | 14,500 | 4 | 1 | 2 | 7 |

A survey was made of the military personnel at Vacoas. Out of a total of 1,016 blood slides taken, twenty were positive (Identification : S.T. 12 ; B.T. : 1 ; Q.T. : 6). These positive smears were obtained from servicemen and families of the K.A.R. batallion newly arrived in Mauritius from East Africa.

Malaria has now been included on the list of notifiable diseases and doctors notified six suspected cases during the year, but slides taken from these cases were all negative. Hospitals and dispensaries gave information of 192 suspected cases, but in these cases also, all the blood slides were found negative.

## A. Entomology Research Section

### (c) *Entomological Survey*

Most of the work reported here is the summary of studies carried out after 19th June, 1952, date on which Mr. J. G. Halcrow assumed duty.

*Port Control.* During the 12 months of 1952, 218 ships were searched. 14 ships were found positive for *Culex fatigans* Wd., and 8 ships were found positive for Muscoid Flies. No anopheline mosquitoes were found on board ships during 1952.

*Mosquito Activity.* A study of the mosquito activity during the dusk to dawn hours was commenced in August. Regular catching by hand throughout the night in two cowsheds and in the dimly lit interior of an Austin Van has revealed some interesting results. The following figures were obtained :—

| | *2 untreated cowsheds* | | *36 catches* | |
|---|---|---|---|---|
| | *Gambiæ* | *Coustani* | *Fatigans* | *Maculipalpis* |
| 2000-2200 ... | 350 | 1236 | 32 | 44 |
| 2200-2400 ... | 210 | 626 | 26 | 30 |
| 0000-0200 ... | 230 | 454 | 24 | 12 |
| 0200-0400 ... | 136 | 500 | 8 | 6 |
| 0400-Dawn. ... | 24 | 58 | 2 | 4 |

LARGE AUSTIN VAN

| | *Gambiæ* | *Coustani* | *Fatigans* | *Maculipalpis* |
|---|---|---|---|---|
| 2000—2200 ... | 228 | 380 | 26 | 12 |
| 2200—2400 ... | 156 | 326 | 26 | 6 |
| 0000—0200 ... | 214 | 362 | 14 | 4 |
| 0200—0400 ... | 66 | 326 | 8 | 0 |
| 0400—DAWN ... | 12 | 8 | 0 | 0 |

These figures show a tendency for the mosquito activity to be greatest shortly after dusk. The activity rapidly falls away after midnight. The fall in the night temperature parallels the fall in mosquito activity.

It has been recently shown for Mauritius that the filarial worms in the peripheral blood system of humans are most numerous from 8.0 p.m. to 10.0 p.m., i.e., at the hours when mosquito activity is at its height.

It has also been noticed that the population of Black River can be found sitting out of doors, talking and singing, at the hours when mosquito activity is at its height. Thus *gambiæ* need never enter an insecticide-treated house to obtain a blood meal ; its hopeless victim is out of doors completely unprotected. Had *gambiæ* been a major vector of malaria, then this habit of the population coinciding with the peak of the mosquito activity, should have resulted in a disastrous epidemic. This has not occurred, instead the new cases of proven malaria have continued to drop. Is *gambiæ* then a vector ? Certainly there exists no figures of positive dissection in Mauritius.

It may be argued that the large numbers of mosquitoes caught during the early hours of the evening represents those which had sought shelter at dawn. That this may not be so is shown by the results of a dawn catch.

| *Dawn catch 26.8.52.* | *Camp Creoles, Albion* | |
|---|---|---|
| In 69 houses ... ... | 37 *Culex fatigans* | No *anophelines* |
| In 32 houses ... ... | No *Culex fatigans* | 18 *anophelines* |

Eleven hours later, catches in two out of the thirty-two cowsheds showed 145 *A. coustani* and 22 *A. gambiae*.

*Prothetely and Metathetely.*—A condition resembling prothetely was lower noticed in the larvae of salt-water *gambiæ*, from Pointe aux Piments and Isle d'Ambre. Subsequently it was found that this condition was metathetely due to one or all of three endoparasites, a nematode, a gregarine and ciliate.

Attempts to infect colonies of fresh water *gambiae* failed, but larvae of *Aedes fowleri* and *Orthopodomia arboricollis* could be experimentally infected.

Possibly, in the case of fresh-water *gambiæ* some physiological bar exists. It may well be that instead of dealing with a polytypic species, we have, in fact, two sibling species in the fresh and salt water *gambiae*.

*Experimental Huts.*—The experimental huts have been constructed and are situated at Le Morne, Yemen and Camp Creoles respectively.

*Dieldrin Experiment.*—The village of Camp Creoles, Albion was sprayed on 23rd December, 1952 with Dieldrin wettable powder at a general application rate of 35 milligrams per square foot. This experiment will form the subject of a separate report in 1953.

*Mosquito Dissection.*—During 1952, 1,506 dissections of mosquitoes were performed, all were negative for sporozoites and oocytes, 126 were positive for thoracic infections of *Wuchereria bancrofti*.

DETAILED SUMMARY

| | *No. Dissected* | *Sporozoites* | *Oocytes* | *Filaria* |
|---|---|---|---|---|
| *A. Gambiæ* ... | 500 | — | — | 28 |
| *A. Coustani* ... | 152 | — | — | 9 |
| *C. Thalassius* ... | 17 | — | — | — |
| *A. Albopictus* ... | 5 | — | — | — |
| *C. Fatigans* ... | 832 | — | — | 89 |
| | 1,506 | — | — | 126 |

The pre-infective stage of *Wuchereria bancrofti* was found in *A. gambiæ* and *C. fatigans*, but not in *A. coustani*. It would appear that the larval filarial worms reach a stage just past the "sausage" stage in the thorax of *A. coustani* and then they are destroyed by their host, or are themselves unable to grow beyond this stage, indicating that *A. coustani* is an unsuitable intermediate host.

*Richelieu Insectary.*—The following results have been obtained with the three breeding colonies. (*Aedes albopictus, Anopheles gambiæ, Anopheles coustani*) :—

| | *Days* |
|---|---|
| *Aedes albopictus* (Skuse) :— | |
| Eggs to Larvae ... ... | 1– 2 |
| Larvae to Pupae ... | 5– 9 |
| Pupae to Adults ... ... | 2– 3 |
| A life cycle of ... ... | 8–14 |
| *Anopheles gambiæ* Giles :— | |
| Eggs to Larvae ... ... | 1– 3 |
| Larvae to Pupae ... | 4–17 |
| Pupae to Adults ... ... | 1– 3 |
| A life cycle of ... ... | 6–23 |
| *Anopheles coustani* Laveran :— | |
| Eggs to Larvae ... ... | 1– 2 |
| Larvae to Pupae ... | 10–17 |
| Pupae to Adults ... ... | 1– 2 |
| A life cycle of ... ... | 12–21 |

## B. THE DIVISION OF ENTOMOLOGY

(*a*) *General.*—For purposes of comparison, the following notes are presented on the same lines as those of previous years. The point of great importance is that *A. Funestus* has again not been seen during the year. It started disappearing from the District of Grand Port after the second spraying, made in the eastern part of that district by the Health Department in 1947 and was not met with again after the remainder of the district had been sprayed by the personnel of the Malaria Eradication Scheme in 1949. In the same year, it disappeared also from the Savanne District. Towards the end of 1949, Flacq district saw the last of its *funestus.* The rest of the island became free during the early days of 1951.

Another mosquito which has not been seen since June, 1951, is *Aedes aegypti*.

(*b*) *Mosquito Surveys.*—The island-wide collection of adults, after knock-downs with pyrethrum spray, continued as in previous years in those houses which gave the biggest yields before the application of residual sprays.

The following gives a summary of the detailed information to be found in the tables published as Appendix III :—

| *District* | *No. of dwellings searched* | *No. of rooms in the dwellings* | *No. of adults found* | |
|---|---|---|---|---|
| | | | *A. gambiae* | *Culicines* |
| Pamplemousses ... | 948 | 2,167 | 2 | 2,868 |
| Rivière du Rempart ... | 646 | 3,496 | — | 855 |
| Flacq ... ... ... | 459 | 981 | 5 | 780 |
| Grand Port ... ... | 686 | 1,803 | 26 | 1,391 |
| Savanne ... ... ... | 106 | 289 | — | 88 |
| Black River ... ... | 1,454 | 2,127 | 37 | 3,667 |
| Port Louis ... ... | 253 | 621 | — | 538 |
| Moka ... ... ... | 300 | 710 | — | 958 |
| Plaines Wilhems ... | 126 | 367 | — | 452 |
| TOTAL ... | 4,978 | 12,561 | 70 | 11,597 |

As can be seen after 12,561 searches in rooms, only 70 *A. gambiae* were found, two thirds of which were obtained during night-catches.

If it is considered that the dwellings searched lie in proximity to extensive breeding-grounds in which *gambiæ* multiplication was prolific throughout the year, owing to heavy and evenly distributed rainfall, the numbers found indicate that D.D.T. is still keeping the anopheline away.

With the *gambiae,* 53 *A. coustani* were found during night-catches, and 2 during the day.

The culicines were chiefly *Culex fatigans.* Among them were 73 *Culex thalassius,* 30 *Culex tritaeniorynchus,* 14 *Aedes albopictus* and 12 *Aedes Fowleri,* found during night-catches.

(*c*) *Special Surveys.*—To make sure that no *A. funestus* had escaped from the treated areas into the untreated central zone, mass-catches were made in the periphery of the latter. The search was intensified in the western part of Plaines Wilhems, inside the border-line with the formerly heavily infested district of Black River. The zone was divided into three sections. One started from La Marie and included the western part of Vacoas—Phoenix. The middle zone comprised the Solferino and Candos regions. The third one took in the western borders of Quatre Bornes, Rose Hill and Beau Bassin.

The results are in the following table :—

| *Locality* | *No. of dwellings searched* | *No. of adults found* | | |
|---|---|---|---|---|
| | | *A. coustani* | *Aedes albopictus* | *Culicines* |
| Prisons Road, St. Martin Road, Mont Roches, Hugnin Road, Plaisance, Stanley, Trèfles, La Source, Ligne Berthaud ... ... ... ... | 2,175 | — | 2 | 4,372 |
| La Source, Ligne Berthaud, La Louise, Palma Road, Bassin Road, Candos, Paillotte, Bosquet, Solférino, La Caverne ... ... ... ... | 2,097 | 1 | 12 | 21,263 |
| Solférino, La Caverne, Quinze Cantons, Holyrood, Glen Park, La Croisée, Henrietta, La Marie, Mare-aux-Vacoas Road ... ... ... ... | 2,177 | 3 | 106 | 7,308 |
| TOTAL ... ... | 6,449 | 4 | 120 | 32,943 |

Although 6,449 searches were made in human habitations, the only anophelines found were 4 *A. coustani.* It will be noted that out of a total of 32,943 culicines, for the three regions surveyed, ⅔ were found in the La Louise—Palma—La Caverne region.

(*c*) *Exophilism.*—Whilst *A. gambiæ* is found inside habitations, only in very small numbers, the men who do the searching, at night, are frequently bitten outside.

*A. coustani* is also an outside night-biter.

(*d*) *Occurrence in cow-sheds.*—In the district of Black River, 196 *A. gambiæ* were found in 79 cow-sheds. It is worthy of note that in the rest of the island 49 more were searched, with negative results. Along with the *A. gambiæ,* 77 *A. coustani,* 3 *Aedes albopictus* and 334 *culicines* were found.

(*e*) *Larval incidence.*—A table showing larval findings is published at Appendix IV. A glance at the table is enough to make one realize that *A. gambiæ* is common througout the year in almost all the low-altitude regions of the island. The largest number of findings has been, as usual, in Black River district. There, *A. maculipalpis* has always been found in association with *A. gambiæ.* In other districts *maculipalpis* is not frequently seen.

It should be noted that the larval findings were made while the breeding-grounds were being treated with high-spread oil by the Malaria Eradication Scheme staff. The only district in which *A. gambiæ* was kept under control and in which, in fact, it nearly disappeared is Flacq. In Savanne, where anopheline larvæ were found only once, very few breeding-grounds exist.

In the rest of the island, below the 300 feet contour line, *A. gambiæ* remains as common as it has always been, in the same breeding-grounds in which it has been known to exist for the past thirty years.

(*f*) *Laboratory Work.*—This has consisted chiefly in the identification of specimens collected in the various districts ; in the breeding of adults and larvae for experimental purposes, also, so as to have always at hand a representative collection of live specimens for demonstrations and for educational purposes.

Among the adult anophelines bred, one female *A. gambiae* lived 63 days, and two female *A. maculipalpis* 53 days.

(*g*) *A. Simuliid Survey.*—In view of the continued presence, in our midst, of men from East Africa, and of the possibility of having among them an early case of onchocerciasis, a disease transmitted in East Africa by *Simulium Neavei,* it was thought necessary to start a simulium survey, so as to ascertain which species occur in the island. Searches have been made in rivers of the central plateau, chiefly around Floréal and Vacoas, and in a few others, in Black River, Grand Port, Flacq and Moka. Up to now, the only simuliid found has been *S. ruficorne.* This is a species which usually attacks birds ; but, on four occasions it has been found feeding on man, two of the persons bitten being the entomologist himself and a member of his family. They were bitten while resting inside the house before sunset.

It should be noted that, whilst in other countries, simuliids enter houses, except when attracted by light, in Mauritius, they can be found inside at all hours of the day.

50. It is considered that every cent disbursed during the post-war years on the elimination of Malaria has been most usefully spent and it was felt in 1952 that Mauritius had, at the stage reached, to proceed with caution and to take into account economy which is the essence of any anti-malarial scheme. The eradication of malaria had been virtually achieved, transmission of the disease had practically ceased and the man-mosquito-man sequence had been broken. Was it worth while incurring expenditure on a larger scale in an attempt to eliminate the elusive *A. gambiae* ? I listened to the voice of reason and submitted to Government a memorandum containing detailed proposals on the future control of malaria in the island which were discussed in the month of July in London by His Excellency the Governor and myself with the Colonial Office Medical Advisers and the Colonial Insecticides Committtee, and finally accepted by the Secretary of State for implementation in 1953.

51. Following nearly ten years of work, a summary of the position will be of advantage. The Government, with the concurrence of the Secretary of State, decided in 1943 to fight malaria on an island-wide scale. In 1944, the first permanent engineering works started in the districts of Pamplemousses and Plaines Wilhems. In 1947, they were extended to the Port Louis area and subsequently to the district of Moka. By 1948, the vital statistics for the island showed significant reductions in the crude death rate, the infant mortality rate and the number of deaths caused by malaria. While there was a general reduction throughout the Colony, this was definitely more conspicuous in the districts in which anti-malarial works had been carried out on a large scale.

52. With the discovery of the synthetic insecticides and the residual effect of their application, there appeared the possibility of eradicating the disease by the destruction of the adult anopheles in the habitations of human beings and the harbourages of domestic animals, the more so that the mosquitoes considered as the two local vectors, *Anopheles funestus* and *Anopheles gambiae* were then thought to be both very domestic in their habits and to freely enter and rest in human habitations. Residual house spraying, which began in January 1949 produced a very striking reduction in the incidence of the disease and *A. funestus* ceased to be found. During the summer of 1950 it became evident that the effort at eradication of *A. gambiae* by residual spraying of houses had not produced appreciable results and this mosquito, then seldom encountered in houses, was still breeding profusely all over the island. It was therefore decided to attempt species eradication of *A. gambiæ* by a combination of house spraying and larviciding of its breeding places. A trial having given encouraging results in the district of Flacq in the course of the winter of 1950, the methods were extended to the whole coastal zone during the winter of 1951.

53. By 1952, *A. funestus*, originally the most profuse anopheline breeder in the island, and probably the most serious carrier of malaria in that it was responsible for maintaining transmission throughout the year, had been eliminated. Except in the district of Black River, this mosquito had not been found in either adult or larval form in spite of very intensive searching since more than two years. In Black River it was then about a year and a half since a specimen of this species had been found. It should be remembered that the malaria season of 1952 has been an extremely favourable one in every way to anopheline breeding so that it could have been anticipated that *A. funestus*, if present, would have revealed itself. With regard to *A. gambiæ*, this mosquito had not responded in a similar manner in spite of a large scale larviciding in an attempt at species elimination during its vulnerable season. If it was desired to adhere to the aim of species eradication, a considerable increase of the already heavy expenditure would have been necessary and such increase would require to be maintained for about four years. Assuming that the additional financial effort were made, there would still be no guarantee of final success, the more so that *A. gambiæ* has been found breeding in the Black River Forests practically out of reach of the human element in the scheme, in brackish and high salt content water around the coast and also in thousands of crab-holes which are so easily missed by both larviciders and supervisors. Further, it appeared difficult to achieve rapid eradication of this mosquito with the workers who will not work towards their own eradication and also with the weapons at present available.

54. The amount of malaria in a community is proportionate to the degree of contact between anopheles and man or in other words it depends on the instinctive host tropisms of the local anophelines. Entomological research has shown that in the course of night catches of mosquitoes, negative results were obtained for *A. gambiæ* in houses from May until the end of August, while during the early summer months, 7·4 *A. gambiæ* were found per cowshed, as compared to 0·6 per house. In day time, the species cannot be found to any extent in houses, although an appreciable number of adults are caught in cowsheds. If would seem that the strain of *A. gambiæ* which is now found in Mauritius is strongly attracted by animals and that it may be found breeding by the million outside without causing malaria in the human. Further, *A. gambiæ* has, according to records available, so far never been found positive on dissection.

55. The alternative host of the malaria parasite is, of course, the human carrier. When the Eradication Scheme began, it was considered that the most suitable place to break the link of the transmission chain was by the elimination of the mosquito vector. This would have ensured indefinitely good results which could have been maintained by efficient port and air-field control. However, the disease cannot be spread even in the presence of a huge number of vector mosquitoes, unless there are a sufficiently large number of human carriers to maintain the infectivity rate of the mosquito. The figures indicated that, with the exception of Black River, there had been virtually no transmission

of the disease throughout the Island. Even in Black River, although transmission was still occurring on a very small scale, there has been a great reduction in the disease during the 1952 season as compared with the 1951 season, in spite of the vast amount of *A. gambiæ* breeding throughout the district. It is considered probable that transmission of malaria will have ceased in Black River before the beginning of the next epidemic season of 1953. It is not surprising that this district should be last to come under complete control when it is remembered that, before the scheme began, Black River was the most serious district for transmission of the disease.

56. Control schemes elsewhere have demonstrated the fact that it is not only possible, but relatively simple by modern methods to maintain control of malaria below the level of economic importance of the disease for a relative low annual cost. In British Guiana, for example, excellent results have been achieved by the aid of residual spraying alone. In Transvaal, a control scheme has been in action for the past five years with universally good results. Malaria is no longer holding up progress, and the agricultural and industrial output of the northern part of this province have increased beyond all expectation in the cost of the last few years. The annual cost is rather higher than will be necessary in the proposed Mauritius control scheme, but the Transvaal is a wealthy province. In any case, its malaria organization also carried out extensive sanitary duties throughout the area, so that the annual cost does not represent a true figure for malaria control. In the United States, it has been shown that transmission of the disease by *A. quadrimaculatus* can be easily controlled and maintained in such a way that malaria is no longer a problem. It is considered that the institution of a malaria control scheme in Mauritius will be of no value unless it can be planned in an economic fashion. There is no reason why the annual cost should not be progressively reduced to as low a figure as 50 cents per head of population per year or indeed to an even lower figure.

57. A plan has been prepared which covers adequately the situation and which will represent an increasingly low annual cost to the Colony. There is no question of the fact that, in the absence of human malaria carriers, no epidemic could possibly arise without considerable warning having been received by the scientific control personnel. It must be emphasized that the scientific control is vital to the success of a control scheme for two reasons. First, in the event of a small pocket of transmission developing, this can be quickly discovered and stamped out by means of residual spraying (with or without larviciding according to the area concerned). The second reason which is equally important is bound up with the economic aspect of the scheme. In order to carry out spraying effectively, efficiently and over a minimum area to ensure control, it is essential that full particulars relating to transmission should be in possession of the unit at all times. It will then be possible for the sprayed areas to be diminished year by year following the findings of the scientific staff. It must be emphasised that the accent of a control

scheme is on the malaria and not on the mosquito vector. In the absence of human carriers, no amount of Anopheline breeding can transmit the disease. This problem of "Anophelism without malaria" already exists in other countries and there should be no difficulty in preventing the disease from recurring

58. It is considered that the first essential at this juncture is the maintenance of a competent professional and technical staff. The creation of an Insect Borne Diseases Division has been approved for 1953. This division will deal primarily with malaria and with the application of insecticides, but it will be capable of extending its activities to other insects of public health importance. Fly control by a carefully selected insecticide during poliomyelitis or typhoid epidemics, or anti-mosquito work for the control of filariasis are examples.

The immediate programme will be :—

(*a*) House spraying with residual insecticides in accordance with the zoning already accepted. It is considered that after the first year only selective spraying should be necessary and it might even be possible to allow one or two districts to go unsprayed provided a "barrier" of insecticides is established on the boundaries,

(*b*) Winter larviciding at selected spots in areas of population concentration,

(*c*) Continuation of the infant survey,

(*d*) Investigation of suspected malaria cases and treatment of proven carriers,

(*e*) Entomological control as a routine measure, alterations being made in the spraying progamme to fit with fresh developments in the entomological field,

(*f*) Dipping of cattle living outdoors with B.H.C in view of the zoophilism of *A. gambiæ*.

59. A very valuable contribution to the eradication of malaria has been provided by the anti-malaria works carried out to date in the districts of Moka, Plaines Wilhems, Port Louis and Pamplemousses. These works must be maintained for an indefinite period as they ensure that breeding places are not available for *A. gambiae* in the areas covered. The first priority lies with the township of Port Louis and the area of Plaisance airfield, in which area works must be completed as soon as possible. These are the only two possible points of introduction of fresh anopheline species.

When these works have been completed, it is certain that there will be very wide scope for this branch to deal with land reclamation throughout the island. If necessary this could be carried out under a separate vote, as it will not have any direct association with malaria control in the absence of human carriers of the disease. If however, this land reclamation is carried out on repayment as in other countries it will not involve any outlay to the Colony, but will make available considerable areas of land for cultivation or settlement in an already over-populated island.

60. The Malaria Advisory Board of which the Director of Medical Services is the Chairman met on seven occasions. I am most grateful to the members for their help and their advice in the course of a year when very important decisions had to be made.

61. *Filariasis.*—56 cases were treated in hospitals and 84 in dispensaries.

62. *Enteric Fever.*—The cases of this disease notified in the year 1952 numbered 252, equivalent to an incidence rate of 0·502 per 1,000 of the population as compared with 326 in 1951.

The number of deaths amongst these 252 cases was 19 giving a case mortality of 7·54 per cent as compared with 52 and 15·95 per cent the previous year.

The incidence of this disease per 1,000 of the population and the case mortality for the past five years were :—

| *Year* | *No. of cases notified* | *Rate per 1,000 of the population* | *Case mortality per cent* |
|---|---|---|---|
| 1947 ... ... ... | 405 | 0·936 | 21·48 |
| 1948 ... ... ... | 371 | 0·839 | 23·18 |
| 1949 ... ... ... | 316 | 0·711 | 16·77 |
| 1950 ... ... ... | 319 | 0·686 | 15·98 |
| 1951 ... ... ... | 326 | 0·67 | 15·95 |

Large stocks of chloramphenicol are held by the Department. Results obtained with that drug are good when cases come up for treatment early enough. Unfortunately, many cases first report to a medical officer a long time after the onset of the disease and in such cases response to the drug is poor.

63. *Diphtheria.*—The cases of this disease notified in the year numbered 73, equivalent to an incidence rate of 0·145 per 1,000 of the population.

The number of deaths among the 73 cases was 10 giving a case mortality of 13·70 per cent.

The following figures indicate the number of cases of diphtheria notified, the incidence rate and the case mortality for the past five years :—

| *Year* | *No. of cases notified* | *Incidence rate per 1,000 population* | *Case mortality per 100* |
|---|---|---|---|
| 1947 ... | 85 | 0·196 | 8·23 |
| 1948 ... | 163 | 0·369 | 17·79 |
| 1949 ... | 154 | 0·346 | 14·28 |
| 1950 ... | 96 | 0·206 | 9·37 |
| 1951 ... | 88 | 0·18 | 19·31 |

64. *Erysipelas.*—There was only 1 fatal case recorded during the year.

65. *Small Pox.*—No case has occurred in Mauritius since 1913 and vaccination is compulsory.

Vaccinations performed were 13,507 :—

| | |
|---|---|
| Successful vaccinations on first attendance ... ... | 12,465 |
| Successful vaccinations on second and subsequent attendances ... ... ... ... ... ... ... | 629 |
| | 13,094 |
| Unsuccessful vaccinations ... ... ... ... ... | 332 |
| Not observed ... ... ... ... ... ... ... | 81 |
| TOTAL ... ... | 13,507 |

56 per cent of the children born were vaccinated by medical officers of the Department and the above figures do not include infants vaccinated by the private practitioners.

66. *Tuberculosis.*—In 1952 the campaign was continued on the same lines as in 1951. All Government and aided and a number of private schools in Plaines Wilhems were covered and also most of the schools in Savane. It was then decided to test and vaccinate school children in other districts. By the end of the year, Grand Port, Black River and Moka had been visited. The response from the parents was remarkably good and the records show that in some schools more than 90 per cent consents were received.

School children in Plaines Wilhems and Savanne who were not converted at the time of the re-test were re-tested and if still not converted re-vaccinated.

Vaccination of new born babies, i.e., infants up to the age of one year was started at different places. With the co-operation of the Mobile Antenatal Clinic, it was possible to vaccinate a satisfactory number of babies.

Mass test and vaccination were performed in three villages in Savanne. The response from the population was extraordinarily good.

Contacts of T.B. cases were tested and if necessary vaccinated. A regular monthly test and vaccination programme has been introduced at Civil Hospital and the number of contacts attending these sessions is quite considerable. The Public Assistance Commissioner and private institutions dealing with the problem of T.B. have sent regular communications about cases of T.B. known to them. All these cases have been followed up and preventive measures were taken.

Only Lyophilised vaccine by intradermal injection was used. Local reactions in the forms of lumps, abscesses and ulcerations appeared. They were healed with P.A.S. dressings and responded invariably. Accurate records were kept which show that these reactions appeared in only 17·3 per cent of vaccinated persons, a figure which is consistent with those from other countries, if not lower. Delayed healing of ulcerations was always due to inadequate treatment. Although circulars were sent twice to all Medical Practitioners, not all cases were reported to the Department and could therefore not be treated in the proper way. As from 1953 a specially prepared vaccine will be used which is supposed to produce less reactions.

All schools were regularly visited by the Nursing Staff after vaccination. These visits started as a matter of routine about 2 or 3 weeks after vaccination and were continued until all reactions were healed. In all, 479 visits were made and 6,410 dressings were applied.

The actual work done in 1952 is shown by the figures given below :—

| | *Routine* | | *Contacts* | *New Born Babies* | *Total* |
|---|---|---|---|---|---|
| | *Children* | *Adults* | | | |
| Test ... ... ... | 16,800 | 2,015 | 385 | — | 19,200 |
| Re-Test ... ... | — | — | — | — | 10,964 |
| Vaccinations ... | 9,915 | 497 | 90 | 313 | 10,815 |

67. For 1952, 350 cases of tuberculosis were notified as compared with 481 for 1951 802 for 1950.

During the year, 201 deaths were attributed to tuberculosis : 196 of the respiratory system, 2 of the meninges and central nervous system, 1 of the intestines and peritoneum, 1 of the vertebral column and 1 of other form. In 1951 there were 235 deaths : 225 of the respiratory system, 6 of the meninges and central nervous system, 1 of the intestines and peritoneum, 1 of the vertebral column and 2 of other forms.

The following indicates the deaths per 100,000 of the population from tuberculosis of the respiratory system for the 10–year period 1943–52 :—

| *Year* | *Death per 100,000 of the population* |
|---|---|
| 1943 ... ... ... ... | 51·67 |
| 1944 ... ... ... ... | 51·49 |
| 1945 ... ... ... ... | 55·24 |
| 1946 ... ... ... ... | 45·49 |
| 1947 ... ... ... ... | 38·39 |
| 1948 ... ... ... ... | 60·20 |
| 1949 ... ... ... ... | 65·24 |
| 1950 ... ... ... ... | 50·78 |
| 1951 ... ... ... ... | 49·00 |
| 1952 ... ... ... ... | 40·08 |

68. The Medical Officer who had been selected for training in the subject of tuberculosis obtained the special diploma at Cardiff during the year, after which he undertook a study tour in England, Scotland and the Scandinavian countries.

69.—(*a*) *Leprosy.*—The following describes the work of the Leper Hospital :—

| | *Male* | *Female* | *Total* |
|---|---|---|---|
| No. of patients on 1st January 1952 ... ... ... | 35 | 17 | 52 |
| No. of patients returned from leave ... ... ... | 1 | — | 1 |
| No. of patients admitted during 1952 ... ... ... | 4 | 3 | 7 |
| No. of patients discharged in 1952 ... ... ... | 5 | 4 | 9 |
| No. of patients died in 1952 ... ... ... ... | 2 | — | 2 |
| No. of patients on 31st December 1952 ... ... ... | 32 | 16 | 48 |

(*b*) *Admissions. Males.*—Four male patients were admitted during the year. Two patients came from Rodrigues, one from Mauritius, but born in China and the fourth from Mauritius, but born in Rodrigues. Of these, one patient from Rodrigues and one from Mauritius and born in Rodrigues were not affected with leprosy and were discharged after a short stay in the hospital. The remaining 2 cases were leprematous cases : one advanced and one moderate.

*Females.*—Three female patients all from Rodrigues were admitted. Of these, one was a case of sclerodermia and was returned to Rodrigues in the course of the year. The other two suffered from frank leprosy.

(*c*) *Discharges. Males.*—Five male patients were discharged during the year. They were in the following state of the disease : 1 moderate neural, 1 mild leprematous, one apparently cured and 2 cases not affected with leprosy. Two returned to Rodrigues.

*Females.*—Four female patients were discharged during the year; they were in the following state of the disease : 1 moderate neural, 2 mild lepromatous, 1 moderate lepromatous. All returned to Rodrigues.

(*d*) *Deaths.*—2 male patients died during the year : one of heart failure and the other one of asthma.

(*e*) *Treatment.*—33 patients are receiving sulphone treatment. Of these, 25 received sulphetrone by mouth and injections, and 6 who were intolerant to sulphetrone received avlosulfone ; 2 received thioparamizone.

Three female patients who became insane were treated by E.C.T. at the Mental Hospital twice weekly. Two of them improved so much that E.C.T. has now been stopped. In the other case, treatment is being continued once a week.

(*f*) Comparative distribution of patients at the Leper Hospital.

| *Male patients* | *Neural type* 1952 | 1951 | |
|---|---|---|---|
| Mild ... ... ... | 2 | 2 | |
| Moderate ... ... | 2 | 3 | 1 discharged |
| Advanced ... ... | 11 | 12 | 1 died in course of the year |
| | 15 | 17 | |

| | *Lepromatous type* 1952 | 1951 | |
|---|---|---|---|
| Mild ... ... ... | 4 | 3 | 1 discharged |
| Moderate ... ... | 6 | 5 | 1 admission |
| Advanced ... ... | 4 | 7 | |
| Cured but blind ... | 1 | 1 | |
| Apparently cured ... | 2 | 2 | 1 discharged |
| | 17 | 18 | |

| *Female patients* | *Neural type* 1952 | 1951 | |
|---|---|---|---|
| Mild ... ... ... | 1 | 1 | |
| Moderate ... ... | 2 | 2 | 1 admitted and 1 discharged. |
| Advanced ... ... | 4 | 3 | |
| | 7 | 6 | |

| | *Lepromatous type* 1952 | 1951 | |
|---|---|---|---|
| Mild ... ... ... | 3 | 4 | 1 discharged. |
| Moderate ... ... | 3 | 4 | 1 discharged. |
| Apparently cured ... | 3 | 3 | |
| | 9 | 11 | |

(*h*) The country of origin of the patients under treatment is as follows:—

| | *Mauritius* | *Rodrigues* | *Oil Islands* | *India* | *China* | *Total* |
|---|---|---|---|---|---|---|
| Males ... ... ... | 17 | 11 | 1 | 1 | 2 | 32 |
| Females ... ... ... | 3 | 12 | 1 | — | — | 16 |
| | | | | | | 48 |

70. The present Leper Hospital is nearing its thirtieth year of existence and the occasion is availed of to make a short historical survey of leprosy in Mauritius and the dependency of Rodrigues. This short survey cannot be better prefaced than by the following quotation from a modern leprologist:—

> "A problem that is unique in modern medicine results from the application of the Biblical name "leprosy" to an ailment which has been defined only during the lifetime of many physicians still vigourously at work.

In no other disease is nomenclature a major hazard for public health. In no other disease is momenclature a more serious barrier to sound medical care than any difficulty in diagnosis or treatment".

71. From records available concerning the admission of cases of leprosy in the St. Lazarre Asylum, it would appear that the first admission for this disease was in 1869. No other case was admitted until 1870 and thereafter the figures for admissions to the Institution are as follows :—

| *Year* | *No. of cases* | *Remarks* |
|---|---|---|
| 1870—79 | 5 | |
| 1880—89 | 15 | 1 case in a child aged 1. |
| 1890—99 | 304 | 1 case in a child aged 1.<br>1 case in a child aged 2, 18 other cases in children of 15 years and below. |
| 1900—09 | 347 | 1 case in a child aged 2, 3 other cases in children of 15 years and below. |
| 1910—16 | 112 | No entries made in Admission book after 1916 until 1923. 1 case in a child aged 3 months, 2 other cases in children below four. No other children admitted. |
| 1923—29 | 85 | 10 cases from Rodrigues. |
| 1930—39 | 62 | 11 do. do. |
| 1940—49 | 26 | 14 do. do. |
| 1950—52 | 17 | 15 do. do. |

72. The "hunt" for cases of leprosy seems to have received an impetus at the beginning of the century and the first year of the century shows a record figure for admissions. In that year the names of 54 new cases and of 11 re-admissions are on record.

The analysis of the progress and stay in the institution of the 65 cases is interesting. By the end of the year 13 of the 65 patients had died and twenty seven had been discharged. By the end of 1902 the figures are deaths: 5, discharged : 9, leaving in the Institution eleven out of the 65 patients who had remained for a period of less than two years.

Furthermore, a glance through the Admission Book shows that only a small minority of cases put in a stay of two years or more. Death took a heavy toll, and discharges were numerous. A number of patients left for India when they did not abscond and take to hiding.

73. In February 1924, the present Leper Hospital was opened. Two dozen patients agreed to the transfer, the others absconded and several months elapsed before the absconders could be rounded up or before they found their way to the hospital.

From 1924–29, 65 new cases were admitted, after they had been examined by the Leprosy Board as ordained under the Public Health Ordinace of 1925.

The figures for the next decade (1930–39) show an appreciable reduction, which was even more marked in the following decade 1940–49.

Only two Mauritian cases have been admitted in the last three years and they are in-patients in whom the disease had been in progress for 10–15 years at least.

That leprosy has ceased to be a public health problem in Mauritius is further evidenced by the fact that the last case of the disease detected in a child dated back to 1932.

74. The case for Rodrigues is different. The upward trend in the last thirty years shows no sign of abating, but a hopeful feature of the cases from Rodrigues is that early cases are coming forward for admission and with modern treatment the prognosis in nearly all cases is much more hopeful. In fact, the cases admitted during the last five years (treatment with sulphones was started five years ago) have progressed very satisfactorily and at a comparatively rapid rate.

It can therefore be confidently stated that in Mauritius, and to a certain extent in Rodrigues also, "the barrier to sound medical care" has been removed and difficulties in diagnosis and treatment have been overcome.

If in Mauritius leprosy has ceased to be a Public Health problem, it is hoped that within the present decade Rodrigues will be in the same favourable position.

75. *Poliomyelitis.*—An account of the epidemic of 1952 with some comparisons with the 1945 and 1948–49 epidemics submitted by the Specialist in Orthopaedic Sergery appears as Appendix V in the present Annual Report. A graph showing the comparative trends of the three epidemics is given in Figure I of that Appendix.

76. *Venereal diseases.*—167 cases of admission for syphilis and 5 deaths were recorded from the hospitals during the year. 26 cases of gonococcal infection were treated. At the dispensaries 768 cases of syphilis and 171 cases of gonococcal infection were treated during the year under review.

77. *Ankylostomiasis.*—573 cases were treated in hospitals and 5,965 cases in the dispensaries. These figures are in no way reliable, because a large number of cases of anaemia seen in both dispensaries and hospitals are registered as hookworm disease, due to the fact that nutritional anaemia is constantly confused with hookworm anaemia and dealt with by deworming. Considerable haematological evidence has been built up in the recent past to show that hyperchromic anaemia is the type predominently present in Mauritius; nutritional anaemia is hyperchromic and hookworm anaemia hypochromic in type.

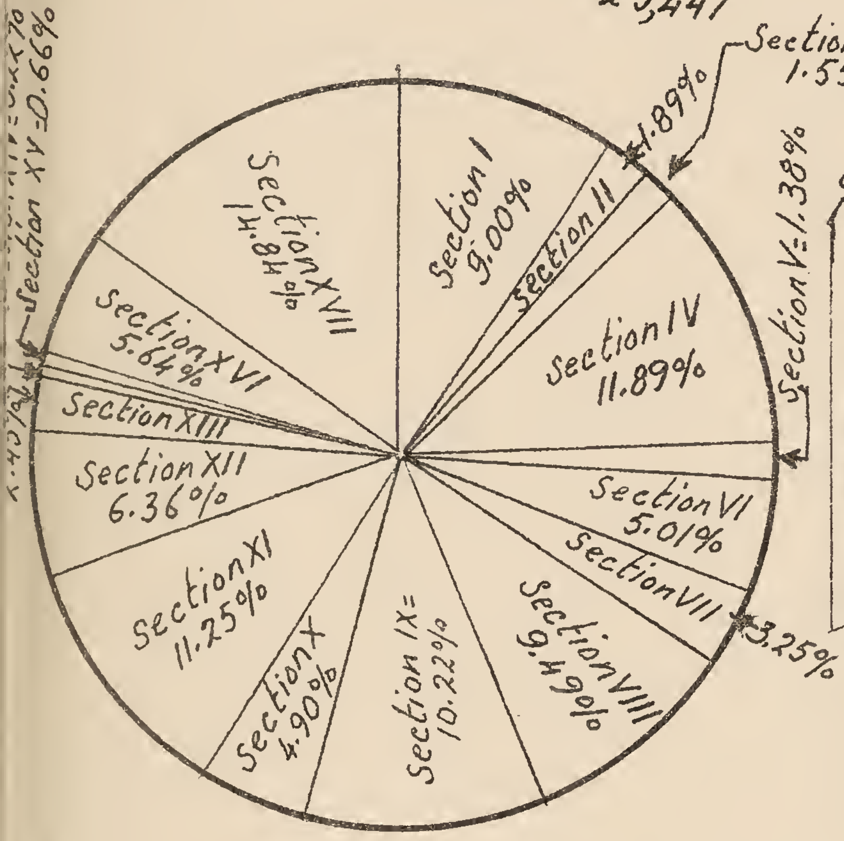
78. *Schistosomiasis.*—During the year 79 cases were treated in hospitals and 431 at the dispensaries.

# YEAR 1952

FIGURE VI.

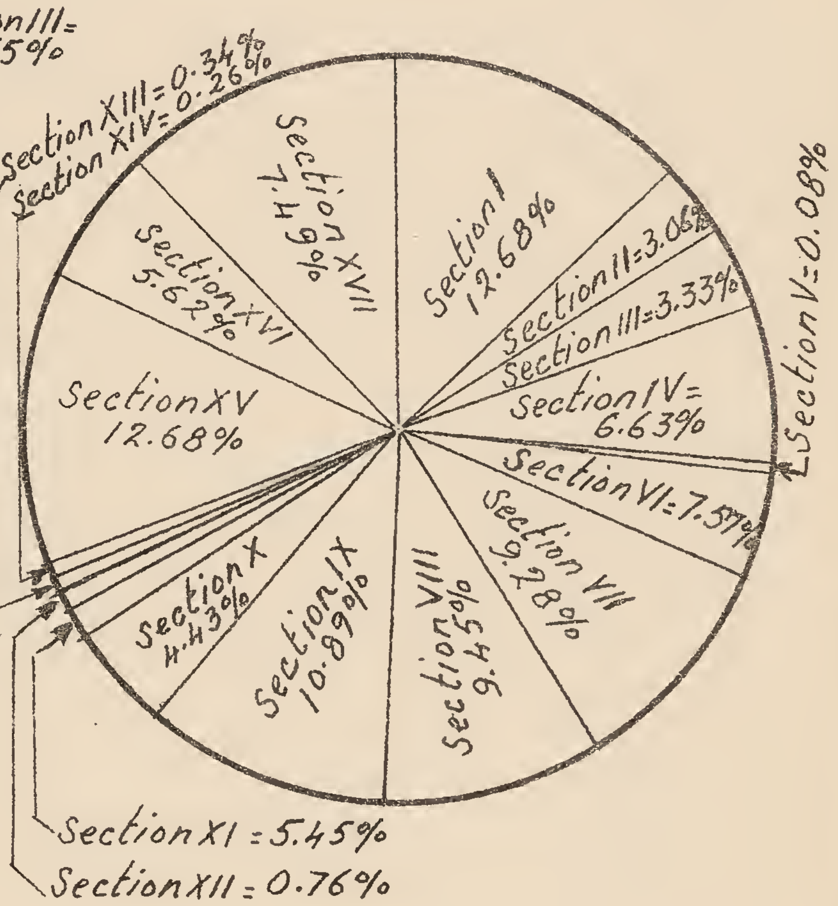
Proportion in percentages of diseases in hospital, by Sections of the INTERNATIONAL STATISTICAL CLASSIFICATION of Diseases, 1948, to total eases treated in hospital.

TOTAL INCIDENCE= 29,447



Proportion in percentages of Deaths in hospital, by Sections of the INTERNATIONAL STATISTICAL CLASSIFICATION to total deaths in hospital.

TOTAL DEATHS=1,175



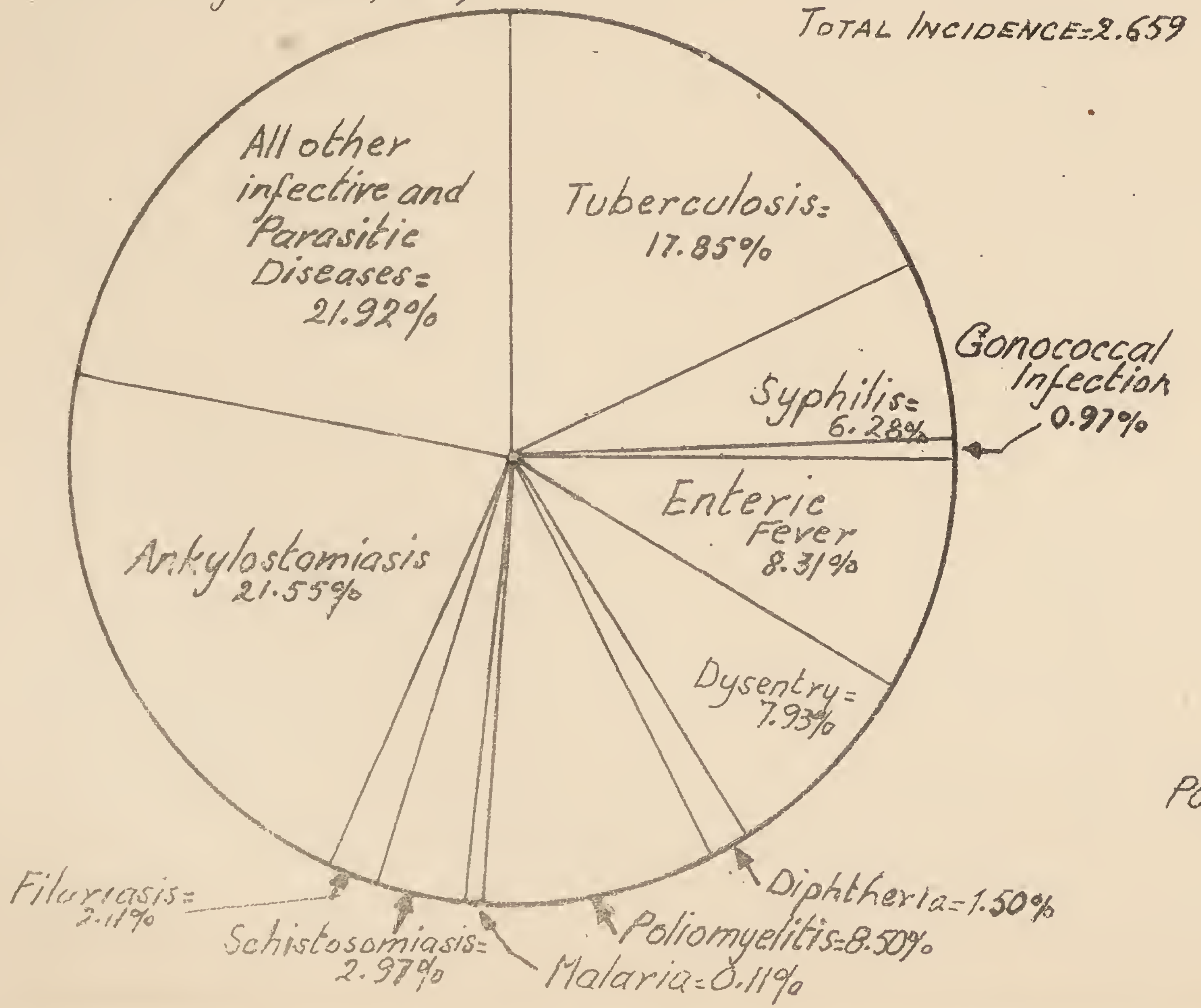
## REFERENCE

Section I. Infective and Parasitic Diseases.
Section II. Neoplasms.
Section III. Allergic, Endocrine system, Metabolic and Nutritional Diseases
Section IV. Diseases of the blood and blood forming organs.
Section V. Mental, Psychoneurotic and personality disorders.
Section VI. Diseases of the nervous system and sense organs.
Section VII. Diseases of the circulatory System.
Section VIII. Diseases of the respiratory system.
Section IX. Diseases of the Digestive System.
Section X. Diseases of the Genito-Urinary System.
Section XI. Deliveries and Complications of Pregnancy, Childbirth and (Puerperium.
Section XII. Diseases of the skin and Cellular tissue.
Section XIII. Diseases of the Bones and Organs of movement.
Section XIV. Congenital Malformations.
Section XV. Certain Diseases of early infancy.
Section XVI. Symtoms, Senility and ill-defined conditions.
Section XVII. Accidents, Poisonings and Violence.

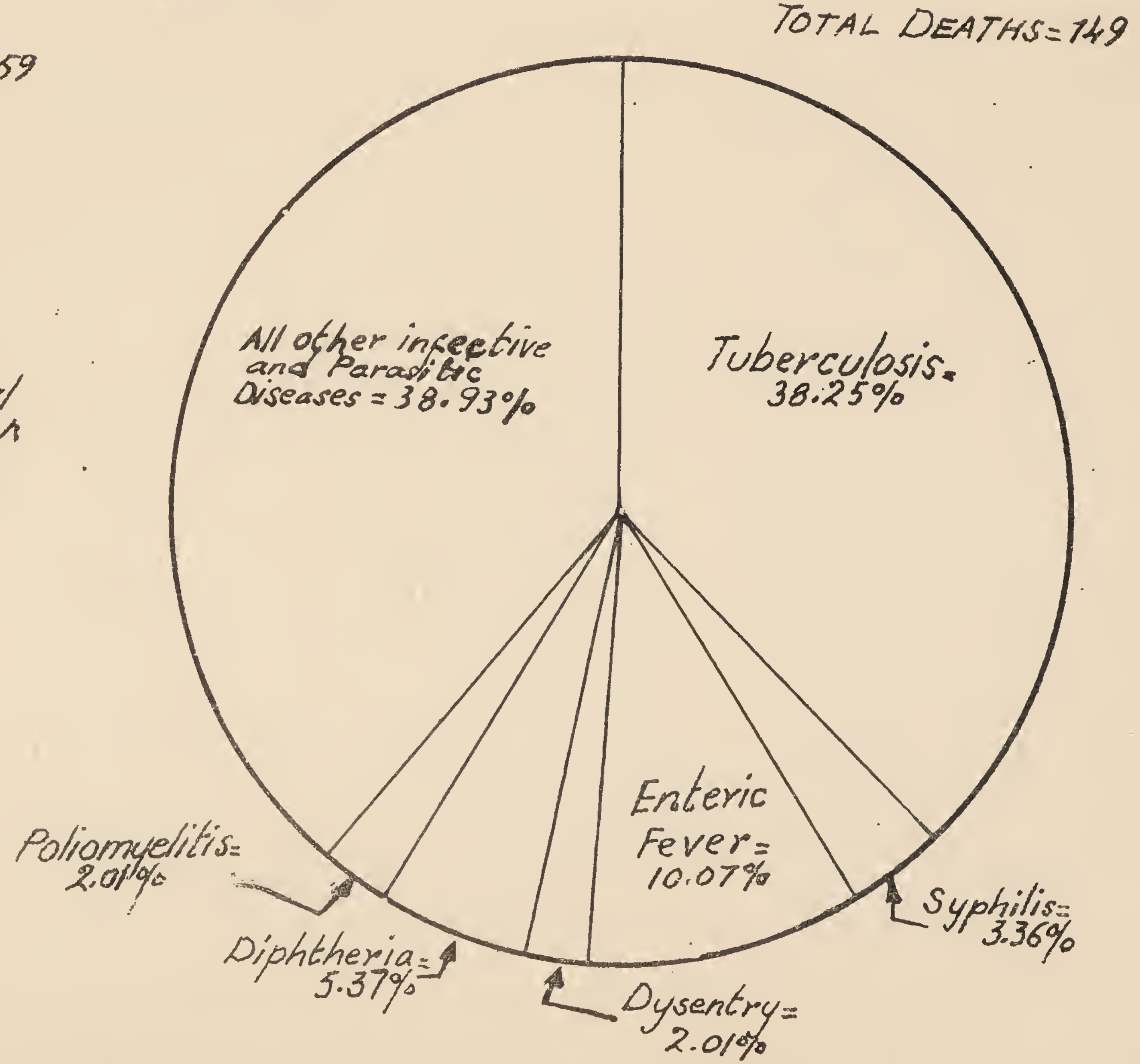
**FIGURE VII.**

## YEAR 1952

Proportion in percentages of certain infective and parasitic diseases treated in hospital to total cases of infective and parasitic diseases treated—(Section I of INTERNATIONAL STATISTICAL CLASSIFICATION of diseases, injuries and causes of death, 1948)



Proportion in percentages of deaths in hospital due to certain infective and parasitic diseases to total deaths in hospital, due to infective and Parasitic diseases.



79. Figure VI shows the proportion in percentages of diseases treated in hospital to total cases treated, according to the sections of the International Classification of Diseases 1948, while Figure VII shows the proportion in percentages of certain infective and parasitic diseases in hospital to the total cases of infective and parasitic diseases treated. Table IX indicates the number of cases of notifiable diseases by districts for the year 1952 and Table X the monthly notifications.

## TABLE IX

### Notifiaale Contagious or Communicable Diseases—By Districts Calendar Year, 1952

| | *Typhoid Fever* | *Diphtheria* | *Acute Poliomyelitis* | *Erysipelas* | *Puerperal Fever* | *Tuberculosis* |
|---|---|---|---|---|---|---|
| Port Louis ... ... ... | 36 | 23 | 49 | — | — | 88 |
| Pamplemousses ... ... | 33 | 4 | 46 | — | 1 | 31 |
| Rivière du Rempart ... | 42 | 2 | 39 | — | 2 | 29 |
| Flacq ... ... ... | 25 | 2 | 37 | — | 1 | 31 |
| Grand Port ... ... | 15 | 4 | 42 | — | 2 | 28 |
| Savanne ... ... ... | 7 | 5 | 25 | — | — | 42 |
| Plaines Wilhems ... ... | 59 | 29 | 76 | — | — | 90 |
| Black River ... ... | 21 | 2 | 2 | — | — | 2 |
| Moka ... ... ... | 14 | 2 | 12 | 1 | 2 | 9 |
| Totals ... ... | 252 | 73 | 328 | 1 | 8 | 350 |

## TABLE X

### Monthly Notifications of Notifiable Contagious or Communicable Diseases—Calendar Year, 1952

| | *Typhoid Fever* | *Diphtheria* | *Acute Poliomyelitis* | *Erysipelas* | *Puerperal Fever* | *Tuberculosis* |
|---|---|---|---|---|---|---|
| January ... ... ... | 25 | 6 | 4 | — | 1 | 30 |
| February ... ... | 11 | 6 | — | — | — | 29 |
| March ... ... ... | 26 | 9 | 9 | 1 | 2 | 33 |
| April ... .. ... | 18 | 17 | 198 | — | 1 | 16 |
| May ... ... ... | 22 | 10 | 74 | — | 1 | 45 |
| June ... ... ... | 25 | 4 | 20 | — | — | 19 |
| July ... ... ... | 23 | 6 | 5 | — | — | 35 |
| August ... ... ... | 23 | 3 | 7 | — | 1 | 42 |
| September . ... | 25 | 4 | 3 | — | 1 | 24 |
| October ... ... ... | 16 | 3 | 4 | — | — | 22 |
| November ... ... | 29 | 3 | 3 | — | — | 33 |
| December ... ... | 9 | 2 | 1 | — | 1 | 22 |
| Totals ... ... | 252 | 73 | 328 | 1 | 8 | 350 |

### (2) Nutrition and Nutritional Diseases

80. The following nutritiional diseases were recorded during the year :—

| *Diseases* | *In Hospital (cases)* | *At static dispensaries (cases)* | *At mobile dispensaries (attendances)* |
|---|---|---|---|
| Beriberi ... ... ... | 1 | 4 | — |
| Pellagra ... ... ... | 13 | 38 | 4 |
| Scurvy ... ... ... | — | — | 27 |
| Other deficiency states ... | 198 | 3,278 | 4,872 |

81. Following the abolition of the post of Nutrition Officer by a decision of a majority of the members of the Legislative Council in connection with the examination of the Colony's draft Estimates for the financial year 1951-52, the Nutrition Service has ceased to exist. This is indeed a catastrophe as nutritional anaemia continues to be one of the very serious problems of the moment. It is widespread in the working classes and affects chiefly women in the childbearing period. In women, an exacerbation of the anaemia is the almost invariable accompaniment of pregnancy and lactation. In the middle classes the incidence of the diseases is less from all available data, but women are affected to a greater extent than men. No class of the community is however protected from or immune to this disease, the severity of its manifestations being conditioned by the dietetic habits and the general health conditions of the individual.

82. An unbalanced diet with an inadequate consumption of first-class protein is the most important factor at work in the causation of the condition. Deficiency of certain accessory factors also plays a part. It may well be that the soil of Mauritius is lacking in some essential trace elements such as manganese and cobalt and that the locally grown foodstuffs are deficient in that respect. Controlled experiments carried out on growing chicks have indicated that maganese deficiency and secondarily cobalt deficiency are quite common.

83. Nutritional anaemia is frequently found associated with malaria and sometimes with intestinal parasites. The figures available at the Central Laboratory indicate an improvement in the number of cases of nutritional anaemia diagnosed at that institution during the year 1949 following an improvement in the food supply position after the unavoidable war-time restrictions. A further striking improvement became evident in the year 1950, when the incidence of malaria, already reduced in 1949, was at its lowest since the introduction of the disease in Mauritius.

84. Some research work has been done by George Sippe who was Pathologist in Mauritius between 1938 and 1946 and his findings, which corroborate with those of other workers, have been published in 1947. A comprehensive nutritional survey is still required to define more clearly the cause or causes of the prevalence of the disease, but the Department is ineffectual in the absence of an organised Nutrition Service. On the other hand, the shortage of professional staff is such that even if an officer with interest and some experience in nutrition were available, no one could, at the present time, be diverted to attempt some work on this very important question.

### (3) FOOD IN RELATION TO HEALTH AND DISEASE

85.—(*a*) *General*—Insanitary places where food is prepared, stored and sold abound in Mauritius and it is unfortunate that regulations could not be passed during the year under review to make effective the

Ordinance enacted in 1951 and designed to regulate trades and industries. The regulations which have been drafted ensure that not only the building should be sanitary, but that the dirty habits of owner and employees should not render premises and equipment useless. Meanwhile health education is proceeding satisfactorily and the aim is to make members of the public realise that they must refuse to patronise insanitary shops.

(*b*) *Food supplies*—The quality and quantity of food available to the island's population remains one of the essential preoccupations of the health services. On the whole, the foodstuffs offered to the public are of goods quality, but the food situation is not yet very satisfactory. The cost of essential basic foodstuffs again took a sharp upward trend and shortages are occurring. Animal protein is not easy to obtain and still less at a reasonable price : butcher's meat is under control and not freely available ; fish, in greater demand than in prewar days, is not procurable in plenty ; eggs are scarce and tend to become scarcer at certain times of the year when epizootic diseases cause havoc among poultry ; there is not enough milk produced. On the other hand, green vegetables are not as plentiful as before and cost a lot. As the result of the higher prices paid for sugar, land formerly used to produce foodscrops, the market price of which was accessible to the man in the street, is now supporting sugar cane.

The food inspectorate was very active and continued to pay particular attention to the sale of fresh milk, the adultaration of which, in the absence of sufficient production, is extremely common. In 1952, there were 391 successful prosecutions of milk sellers : fines imposed amounted to Rs. 33,842 and imprisonment reached the total of 57 months and 32 weeks as indicated in Table XI. (Corresponding value of fines in sterling : £ 2,538–16 s.

## TABLE XI

| *District or Section* | *No. of prosecutions* | *Sentence* | | | *Fines Rs.* |
|---|---|---|---|---|---|
| | | *Months* | *Weeks* | *Days* | |
| Port Louis District ... ... | 91 | 37 | — | — | 14,070 |
| Pamplemousses District ... | 67 | 13 | 2 | — | 3,000 |
| Rivière du Rempart District ... | 18 | — | — | — | 1,005 |
| Flacq District ... ... ... | 49 | — | — | — | 3,120 |
| Grand Port District ... ... | 30 | — | — | — | 3,555 |
| Savanne District ... ... | 9 | — | — | — | 1,560 |
| Curepipe Section ... ... | 14 | — | — | — | 395 |
| Vacoas Section ... ... | 30 | 1 | 18 | — | 1,560 |
| Rose Hill Section ... ... | 40 | 2 | — | — | 2,267 |
| Black River District ... ... | 13 | 3 | — | — | 750 |
| Moka District ... ... | 30 | 1 | 12 | — | 2,560 |
| TOTAL ... ... | 391 | 57 | 32 | — | 33,842 |

(*c*) *Slaughter Houses and Markets.*—There are six public and one private abattoirs. The public abattoirs administered by the Municipality of Port Louis, the Town Councils of Curepipe and Beau Bassin—Rose Hill as well as the new departmental slaughter house at Flacq are each controlled by a qualified Veterinary Officer. In other places, supervision rests with the Sanitary Staff.

There are twelve markets in the Colony.

### (4) GENERAL MEASURES OF SANITATION

86. *Health Inspection.*— On 31st December 1952, the staff of Sanitary Inspectors consisted of :—

| | | | |
|---|---|---|---|
| 4 | Senior Health Inspectors | | |
| 5 | Sanitary Inspectors | Grade | I |
| 14 | Sanitary Inspectors | Grade | II |
| 30 | ,, | ,, | III |

and 1 Port Health Inspector.

For sanitary inspection, the Port Louis municipal area is divided into six sections, Plaines Wilhems district into three sections and the remaining districts into seven divisions, which comprise a total of nine sections.

The inspections recorded as made by the Sanitary Inspectors during the year are listed in Table XII whilst Table XIII gives particulars of prosecutions entered at the instance of the Health Department.

87. *Conservancy Services.*—During the year under review, there was no deterioration of the services in the municipal and townships areas, but in the rural areas, although the services were on the whole, satisfactorily maintained, some of the Village Councils to whom have been entrusted the work formerly done by contractors could not cope with the situation. They need a considerable amount of guidance and it is evident also that their revenue should be increased to enable them to provide additional labour and equipment. However, the majority of these new Councils are shouldering their responsibilities with very praiseworthy enthusiasm.

The absence of proper dust bins in the towns and the more populated centres continues to be a sore point. The public at large still fail to realise that house refuse is a nuisance and it will require a good deal more persuasion and frequent recourse to the instrument of law to make them understand that old tins and wooden boxes, the pavement and the street gutters are not intended to receive house and trade refuse pending removal by the collecting vehicles.

## TABLE XII

### SANITARY INSPECTORS YEARLY REPORT 1952

| | *Examination of foodstuffs* | *Samples of foodstuffs submitted for analysis* | *Seizures* | *Inspection of food premises* | *Visits to slaughter houses* | *Visits to markets* | *Inspection of schools* | *Inspection of offensive trades* | *Inspection of other premises* | *Inspection on account of new buildings* | *Inspection in connection with mosquito control* | *Inspection in connection with notifiable diseases* | *Inspection in connection with night soil service* | *Inspection in connection with scavenging service* | *Disinfections carried out* | *No. of notices orders and requests served* | *Cremations attended to* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Port Louis District ... ... | 1,212 | 131 | 29 | 1,471 | 10 | 54 | 115 | 19 | 5,519 | 418 | 1,376 | 109 | 385 | 404 | 59 | 633 | 34 |
| Pamplemousses District ... | 1,553 | 71 | 2 | 865 | — | — | 127 | 13 | 13,343 | 309 | 14,348 | 116 | 360 | 480 | 34 | 289 | 100 |
| Rivière du Rempart District ... | 323 | 21 | — | — | — | — | 56 | 8 | 5,468 | 205 | 4,555 | 78 | 3,130 | 9,300 | 58 | 462 | 57 |
| Flacq District ... ... ... | 190 | 58 | 20 | 582 | 60 | 155 | 118 | 1 | 2,832 | 513 | 5,224 | 74 | 296 | 327 | 31 | 1,224 | 126 |
| Grand Port District ... ... | 1,265 | 50 | 63 | 1,223 | 214 | 238 | 134 | 4 | 6,549 | 199 | 807 | 155 | 207 | 1,927 | 50 | 1,671 | 59 |
| Savanne District ... ... | 460 | — | 7 | 288 | 136 | — | 190 | 20 | 9,946 | 190 | 1,333 | 32 | 154 | 365 | 12 | 689 | 37 |
| Curepipe Section ... ... | 509 | 27 | 18 | 1,897 | — | 256 | 120 | — | 4,581 | 235 | 2,189 | 27 | 1,189 | 365 | 20 | 975 | 21 |
| Vacoas Section ... ... ... | 388 | 56 | 12 | 1,119 | — | 51 | 73 | 4 | 7,265 | 304 | 1,611 | 29 | 300 | 300 | 22 | 435 | 26 |
| Rose Hill Section ... ... | 1,427 | 56 | 72 | 1,069 | 11 | 40 | 72 | 32 | 7,273 | 414 | 3,503 | 88 | 150 | 365 | 66 | 1,517 | 56 |
| Black River District ... ... | 168 | 29 | 1 | 168 | — | — | 67 | 3 | 4,444 | 115 | 517 | 22 | 2,018 | 351 | 22 | 535 | 1 |
| Moka District ... ... ... | 1,358 | 43 | 6 | 1,493 | — | 257 | 44 | 8 | 2,138 | 238 | 3,467 | 33 | 240 | 385 | 27 | 275 | 33 |
| TOTAL ... ... | 8,853 | 542 | 230 | 10.175 | 432 | 1,051 | 1,116 | 112 | 69,358 | 3,140 | 38,930 | 763 | 8,429 | 14.569 | 401 | 8.705 | 550 |

## TABLE XIII

| Nature of Offence | Total | Number of cases | | | Sentence | |
|---|---|---|---|---|---|---|
| | | Successful prosecutions | Discharged | Summons withdrawn | Total fines | Total imprisonment |
| Selling sophisticated milk ... | 416 | 391 | 25 | — | 33,842 | 57 mths<br>32 wks |
| Failing to have the names, surnames and the kind of milk painted on milk vessels (G.N. 80/1944) ... ... ... ... | 117 | 115 | — | 2 | 1,206 | — |
| Failing to produce on demand Registration Certificates whilst selling milk (G.N. 42/1934)... ... ... ... | 40 | 39 | — | 1 | 308 | — |
| Non compliance within delay of Notices re: nuisances as defined in Art. 18 of the Public Health Ordinance 1925 ... | 202 | 184 | — | 18 | 1,398 | — |
| Preparing foodstuffs without taking adequate measures to prevent infection or contamination (P.H.O. 47/1925) ... | 21 | 18 | — | 3 | 166.25 | — |
| Exposing for sale ready eatable foodstuffs unprotected from dust and flies (G.N. 320 of 1920) ... ... ... ... | 143 | 138 | — | 1 | 1,657 | — |
| Failing to provide latrines on premises or to maintain the latrines in good condition (G.N. 183/1926) ... ... | 175 | 167 | — | 8 | 1,088.50 | — |
| Failing to produce on demand Medical Certificates—whilst selling food commodities (G.N. 153 of 1926 and 164 of 1927) ... ... ... ... | 32 | 31 | — | 1 | 151 | — |
| Burning charcoal without permission (G.N. 198/1907) ... | 19 | 18 | — | — | 171 | — |
| Non compliance within delay of order re: masquito nuisances as defined in Ord. 28 of 1946 ... ... ... ... | 20 | 18 | — | 2 | 2,455 | — |
| Other Offences ... ... | 55 | 53 | — | 2 | 1,095 | — |
| TOTALS ... | 1,240 | 1,172 | 25 | 38 | 43,537.75 | 57 mths<br>52 wks |

A MESS FOR THE STAFF

FREE MEALS BEING SERVED TO THE STAFF

88. *Housing.*—The housing position continues to be unsatisfactory and there is a big and increasing demand for new and better houses, particularly from the middle and lower income groups. The great difficulty in meeting the demand is the very high cost of any permanent building providing the minimum amount of desirable requirements, such a building is beyond the normal means of the average wage earner.

It is already manifest that in order to get out of the impasse reached, there is need for a temporary lowering of constructional standards, hygienic requirements being maintained at the expense of durability. It seems that the main technical difficulty for the designing of low cost houses is related to the production of a sound and cheap roof that will resist cyclones: once an answer has been found part of the problem will have been solved.

Several experimental housing schemes intended to provide information for future planning were in progress during the year. The primary aim of such schemes is research into cheaper methods of housing construction, unshackled by preconceived notions and alive to new technical developments.

It is needless to stress the fact that, in the meantime, overcrowding continues and that many of the existing buildings are in a condition which is far from being sanitary, but is it wise under existing conditions to use legal powers and drive out of their shelters occupants who are unable to find alternative accommodation ?

89. *Labour conditions.*—Conditions under which labour is employed and accommodated are mainly the concern of the Labour Department, but there is close liaison between officers of the Labour and Health Departments and every assistance is afforded for the control of sanitary conditions at Labour Camps and for supervising factories and workshops.

One factory in the island has introduced important welfare measures consisting in one substantial full mid-day meal and afternoon tea, provision of a recreation room where periodicals are at the disposal of the personnel, two table-tennis tables, two volley ball pitches and one deck tennis pitch. As a result, morale is high and the personnel is in very good health. The weights of 194 members were recorded during the period extending between March and October 1952 and they showed an average increase of 0·64 kilogramme during the period under review. It is hoped that other firms will introduce similar measures.

90. *Port Louis District.*—The Medical Officer of Health reports as follows :—

| | | |
|---|---|---|
| AREA : | | |
| *District of Port Louis ... ... ... | 10,560 | acres |
| Town of Port Louis ... ... ... | 1,350 | acres |
| Total population (estimate of Registrar General at 30th June 1952) ... ... ... ... | 80,424 | |
| Live births ... ... ... ... ... ... | 3,993 | |
| Birth rate per 1,000 ... ... ... ... | 49·6 | |
| Still Births ... ... ... ... ... ... | 294 | |
| Rate per 1,000 (live and still) births ... ... | 50·1 | |
| Deaths ... ... ... ... ... ... | 1,328 | |
| Death rate per 1,000 ... ... ... ... | 14·8 | |

---

*District of Port-Louis : Density 5,124 per square mile.
Town of Port Louis : Density 33,187 per square mile.

Notification of births is made to the Health Office.

Daily returns of still-births and deaths are also received from the Registrar General.

### ADMINISTRATION

The Health Office for the District of Port Louis is administered by a Medical Officer of Health who is also Port Health Officer. The staff consists of one Senior Sanitary Inspector, 6 junior Sanitary Inspectors and six disinfectors.

A Port Health Inspector appointed last year is in charge of port sanitary duties and is also responsible for anti-rodent measures. The Harbour Disinfecting Station has a staff of seven:—Disinfection and fumigation are carried out by this branch. The Anti-rodent branch has a staff of twelve of which nine are ratcatchers.

### *Housing*

418 building applications were submitted during the year and were passed.

The housing shortage continues to be a problem which is unlikely to be solved by private enterprise alone. The Government and the Municipality of Port Louis will have to take the necessary steps in the near future if the situation is to be improved.

The tendency is now to build concrete houses after the European style and the important question of ventilation has to be kept constantly in mind.

Repairs to wooden houses are still expensive owing to the high cost of labour and building material.

### *Food*

Periodical inspections of food premises are carried out by the Sanitary Inspectors and it is hoped that the coming legislation will improve the eating houses.

Every attempt is made to reduce the handling of food to a minimun. Unwholesome food is seized during inspections and a certain amount is voluntarily surrendered by the shop keepers on information sent by them to the Health Office.

Several icecream factories are in operation and very special supervision is necessary as pasteurisation is not demanded by legislation.

Milk continues to be adulterated in spite of heavy fines inflicted by the Court.

131 samples were taken during the year and of these 127 were reported upon unfavourably by the Government Chemist, and prosecution followed. The fines amounted to Rs. 14,070 and imprisonment totalled 37 months. (Corresponding value of fines in sterling: £1,055—10shs).

### *Water*

The greater part of the water consumed in Port Louis is derived from Pailles Reservoir which is chlorinated after sand filtration. Certain premises are supplied with Mare-aux-Vacoas water which is both filtered and chlorinated.

The eastern and extra-urban section of the district is supplied by Bathurst Canal water which is untreated.

The raw water and the treated water of Pailles Reservoir and of Mare-aux-Vacoas is regularly analysed by the Government Pathologist. The water supply is unfortunately intermittent in certain parts of the Town of Port Louis.

*Infectious Diseases notified during the year :—*

| | |
|---|---|
| Diphtheria ... | ... 24 |
| Erysipelas ... | ... Nil |
| Poliomyelitis ... | ... 47 |
| Puerperal Fever | ... Nil |
| Typhoid Fever | ... 35 |
| Tuberculosis ... | ... 89 |

### *Refuse collection and disposal*

The scavenging service is carried out by the Municipality of Port Louis and is improving slowly.

Indiscriminate tipping is carried out at two dumping grounds situated in the extra urban area ; tip fires are the rule and are due to deliberate firing and not to spontaneous combustion.

### *Sewage disposal*

The sewerage system is under the supervision of the Public Works Department. The sewage from the town of Port Louis is dealt with by disposal at sea.

A certain number of interferences by some members of the public have recently been noticed especially in the case of slop water which is being sent direct into inspection chambers.

A number of pail and pit latrines are found in the extra-urban section of the district which is outside the sewerage area. The pails are regularly emptied into a tipping chamber connected to the sewerage system.

### *Disinfection*

The Medical Officer of Health supervises the work done at the Harbour Disinfection Station which is the only one in the island. Terminal desinfection of mattresses, bedding etc. is done by steam. Articles likely to be injured by steam are treated by formol vapour. Disinfection of rooms is carried out with formalin solution by the above mentioned disinfectors under the supervision of a Sanitary Inspector.

Concurrent disinfection is probably done satisfactorily only in the higher social class of the population.

### *Port Health duties*

279 vessels entered the harbour during the year under review and were boarded by the Port Health Officer and the Port Health Inspector.

No passenger arrived from abroad was detained on account of one of the quarantinable diseases.

Landing passengers are required to produce a valid certificate against small-pox and yellow fever—non possession of these certificates may entail surveillance or in extreme cases isolation. Special measures such as fumigation of cargo, disinfection of passengers' luggage and disinfection of soiled linen continue. Crews of ships can avail themselves of free immunisation against quarantinable diseases.

Spraying of incoming ships with "knockdown" insecticide was performed during the year. No anophele mosquito was collected.

### *Rats and Mice Destruction*

The anti-rodent measures are under the control of the Port Health Inspector. Trapping and poisoning with zinc phosphide are the methods employed in the campaign.

Warfarin has been ordered from England and permanent baiting with the rodenticide will be started next year.

A Claytonizer is available for the fumigation of imported cargo likely to harbour rats.

The Government Granary is regularly fumigated with sulphur dioxide.

### *Cremations*

During the year 34 applications were received. The Medical Officer of Health acts as medical referee. All cremations are supervised by a Sanitary Inspector.

Table XIV summarises the work done in Port Louis.

Table XV gives particulars of cases heard by the Magistrate of Port Louis at the instance of the Medical and Health Department.

## TABLE XIV

### SUMMARY OF SANITARY WORK IN PORT LOUIS DISTICT DURING THE YEAR 1952

| | *Inspection of Premises Notices (Ordinance 47 of 1925)* | | | | |
|---|---|---|---|---|---|
| | *No. of visits* | *No. served* | *No. complied with* | *No. not complied with* | *Outstanding* |
| Visits to Bakeries and Pastries ... | 95 | 19 | 18 | — | 1 |
| Cowsheds and Stables ... ... | 29 | 2 | 2 | — | — |
| Dairies ... ... ... ... ... | 14 | 3 | 3 | — | — |
| Factories and others ... ... ... | 146 | 6 | 5 | — | 1 |
| Markets ... ... ... ... ... | 54 | — | — | — | — |
| Provision shops ... ... ... | 298 | 17 | 17 | — | — |
| Slaughter houses ... ... ... | 10 | — | — | — | — |
| Hotels and Restaurants ... ... | 320 | 33 | 30 | — | 3 |
| Schools ... ... ... ... ... | 109 | 20 | 2 | — | 18 |
| Private premises ... ... ... | 5,519 | 533 | 438 | — | 95 |
| Cemeteries ... ... ... ... | 9 | — | — | — | — |
| Cremation grounds ... ... ... | 60 | — | — | — | — |
| TOTAL ... ... | 6,663 | 633 | 515 | — | 118 |

## TABLE XV

| | *No. of cases* | | | *Sentence* | |
|---|---|---|---|---|---|
| | *Total* | *Fined* | *Summons with-drawn* | *Total Fines* Rs. | *Total inprisonment* |
| Selling sophisticated milk ... ... | 91 | 91 | — | 14,070 | 37 months |
| Failing to have the names, surnames and the kind of milk painted on milk vessels (G.N. 80/1944) ... | 17 | 17 | — | 384 | — |
| Failing to produce on demand Registration Certificates whilst selling milk (G.N. 42 of 1934) ... ... | 8 | 7 | 1 | 69 | — |
| Non compliance within delay of Notices (Ord. 47 of 1925) ... ... ... | 39 | 32 | 7 | 213 | — |
| Preparing foodstuffs without taking adequate measures to prevent infection or contamination (Ord. 47 of 1925) ... ... ... ... | 18 | 15 | 3 | 156 | — |
| Exposing to dust and flies cakes and foodstuffs ready for consumption (G.N. 320 of 1920) ... ... ... | 25 | 24 | 1 | 287 | — |
| Failing to provide latrines on premises or to maintain the latrines in good condition (G.N. 183 of 1926) ... | — | — | — | — | — |
| Failing to produce on demand Medical certificates whilst selling food commodities (G. N. 153 of 1926 and 164 of 1927) ... ... ... | 6 | 6 | — | 36 | — |
| Burning charcoal without permit (G.N. 198 of 1907) ... ... ... | 2 | 2 | — | 35 | — |
| Non compliance with order *re* : mosquito nuisances as defined in Ord. 28 of 1946 ... ... ... | — | — | — | — | — |
| Carrying water in milk can (G. N. 42 of 1934) ... ... ... ... | — | — | — | — | — |
| Hawking milk in can of a capacity of more than one litre and less than 15 litres (G.N. 42 of 1934) ... ... | 2 | 2 | — | 45 | — |
| TOTAL ... ... | 208 | 196 | 12 | 15,295 | 37 months |

## PLAINES WILHEMS DISTRICT

### (i) PUBLIC HEALTH

92. There was no outbreak of communicable disease during the year under review.

*(a) Mid-year population*

| *1943* | *1944* | *1945* | *1946* | *1947* | *1948* | *1949* | *1950* | *1951* | *1952* |
|---|---|---|---|---|---|---|---|---|---|
| 111,206 | 120,277 | 122,487 | 124,319 | 127,894 | 131,263 | 132,124 | 138,023 | 143,509 | 149,627 |

*(b) Deaths*

| *Year* | | *Total* | *Death rate* |
|---|---|---|---|
| 1943 | ... | 2,602 | 23·4 |
| 1944 | ... | 2,400 | 20·7 |
| 1945 | ... | 3,134 | 25·6 |
| 1946 | ... | 2,394 | 19·5 |
| 1947 | ... | 1,901 | 14·9 |
| 1948 | ... | 2,524 | 19·2 |
| 1949 | ... | 1,813 | 13·7 |
| 1950 | ... | 1,655 | 12· |
| 1951 | ... | 1,873 | 13·1 |
| 1952 | ... | 1,920 | 12·8 |

*(c) Births*

| *Year* | | *Total* | *Birth rate* | *Still Births* |
|---|---|---|---|---|
| 1943 | ... | 3,879 | 34·9 | 239 |
| 1944 | ... | 4,928 | 41· | 285 |
| 1945 | ... | 4,962 | 40·5 | 358 |
| 1946 | ... | 5,082 | 40·9 | 320 |
| 1947 | ... | 5,638 | 44·1 | 314 |
| 1948 | ... | 5,374 | 40·9 | 318 |
| 1949 | ... | 5,635 | 41·9 | 322 |
| 1950 | ... | 6,336 | 45·2 | 359 |
| 1951 | ... | 6,423 | 44·8 | 362 |
| 1952 | ... | 6,738 | 45· | 401 |

### (ii) SANITATION

(*a*) *Administration.*—The district is divided into two sections, Upper and Lower Plaines Wilhems, and each section is under the charge of a Senior Sanitary Inspector. There are 3 sanitary offices, one at Curepipe, one at Vacoas and one at Rose Hill.

(*b*) *Night Soil and Conservancy.*—A fairly large number of families make use of water closets with septic tanks and absorption pits ; but the majority of the population are provided with pail and pit latrines. The Curepipe and Vacoas night soil is collected by prison labour and the transport effected by the Health Department. The sewage is disposed of at the Sewage Farm in Phoenix. A small number of pail latrines (86) is collected by a contractor paid by the Township and disposed of at the Cassis Tipping Chamber in Port Louis.

(*c*) *Collection of refuse.*—In the towns of Curepipe, Quatre Bornes and Rose Hill–Beau Bassin the scavenging service is performed by the Town Councils, in the extra-urban areas by the Health Department.

(*d*) *Water Supply.*—The main source of water supply is Mare aux Vacoas. The water is filtered and chlorinated at La Marie Treatment plant.

Wells are used in Camp Fouquereaux and Carreau Galea; rain and crude river water in Fressanges and Midlands.

### (iii) MARKETS

There are six markets, one in Curepipe, one in Rose Hill, two in Quatre Bornes, one in Beau Bassin and one in Vacoas. The first five are controlled by the Town Councils and the Vacoas Market by the Health Department.

### (iv) SLAUGHTER HOUSES

The townships of Curepipe and Rose Hill–Beau Bassin own an abattoir each and the animals and carcases are examined by a veterinary surgeon appointed by the Town Councils.

(*a*) Animals slaughtered during the year:—

| | *Curepipe* | *Rose Hill—Beau Bassin* |
|---|---|---|
| Madagascar, Rodrigues and local oxen ... ... | 1,112 | 3,466 |
| Goats ... ... ... | 479 | 1,251 |
| Sheep ... ... ... | 155 | 77 |
| Pigs ... ... ... ... | 359 | 284 |

(*b*) Carcases seized:—

| *Curepipe* | | *Beau Bassin—Rose Hill* | |
|---|---|---|---|
| *Carcases* | *Cause of seizure* | *Carcases* | *Cause of seizure* |
| Local Oxen ... | 4 for tuberculosis, 2 for leanness | Local oxen ... | 5 for tuberculosis and 1 for leanness |
| Milch cows ... | 1 for tuberculosis, 3 for leanness | Milch cows ... | 4 for tuberculosis and 3 for leanness |
| Madagascar oxen ... | 2 for tuberculosis, 2 for leanness | Madagascar oxen. | 6 for tuberculosis and 2 for leanness |
| Goats ... ... | — | Goats ... ... | 1 for tuberculosis |

### (v) CEMETERIES

There are four cemeteries in Plaines Wilhems: one in Curepipe belonging to the Town Council, one in Quatre Bornes belonging to the parochial church, one in Phoenix under Government control, and one in Beau Bassin belonging to the parochial church.

## (vi) SUMMARY OF SANITARY WORK IN PLAINES WILHEMS DURING THE YEAR 1952

### *Inspection of Premises*

| *Description of premises inspected* | *No. of visits* | *Notices (under Ordinance 47 of 1925)* | | | *Orders (under Ordinance 28 of 1946)* | | | *Requests* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | *No. served* | *No. complied with* | *No. not complied with* | *No. served* | *No. complied with* | *No. not complied with* | *No. served* | *No. complied with* | *No. not complied with* |
| 1. Bakeries and ' pastries ' ... ... ... | 446 | 49 | 6 | 43 | — | — | — | 3 | 3 | — |
| 2. Cemeteries and cremation grounds ... ... | 137 | — | — | — | — | — | — | — | — | — |
| 3. Dairies ... ... ... ... ... .. | 47 | 1 | 1 | — | — | — | — | — | — | — |
| 4. Factories :—(*a*) Aerated water ... ... | 8 | — | — | — | — | — | — | — | — | — |
| (*b*) Others ... ... ... | 8 | 2 | — | 2 | — | — | — | — | — | — |
| 5. Hotels and restaurants ... ... ... | 1,530 | 52 | 8 | 44 | — | — | — | 6 | 5 | 1 |
| 6. Markets ... ... ... ... ... ... | 347 | — | — | — | — | — | — | — | — | — |
| 7. Private Premises ... ... ... ... | 21,016 | 1,658 | 909 | 749 | 216 | 46 | 170 | 722 | 383 | 339 |
| 8. Shops and Stores ... ... ... ... | 1,682 | 53 | 6 | 47 | — | — | | 4 | 4 | — |
| 9. Schools ... ... ... ... ... ... | 262 | 1 | 1 | — | — | — | | | — | — |
| 10. Slaughter Houses ... ... ... ... | 11 | — | — | — | — | — | — | — | — | — |
| 11. Stables and cowsheds ... ... ... ... | 1,272 | 52 | 32 | 20 | 12 | 7 | 5 | 81 | 55 | 26 |
| TOTALS ... ... | 26,766 | 1,868 | 963 | 905 | 228 | 53 | 175 | 816 | 450 | 366 |

### (5) ANTI-RODENT OPERATIONS

93. The work to reduce the rat population continued in a routine manner during the year. The Branch functions under the Medical Officer of Health for Port Louis and the Port Health Inspector and 1 Technical Assistant, 1 Dissector of rats and 7 rodent operators.

The work is mostly concentrated on the destruction of rats in infested premises and in the harbour area of Port Louis, and operations have been extended to Plaisance Airport. The methods used consist of a mixture of trapping and poisoning, stress being laid on poisoning which foils the shy and cunning rats, but our technique for dealing with rodents is constantly kept under review and modernised in the light of fresh developments.

Table XVI shows the number of rats caught during the ten-year period 1943—1952 :—

### TABLE XVI

| *Year* | *Norvegicus* | *Rattus* | *Frugivorus* | *Alexandrinus* |
|---|---|---|---|---|
| 1943 ... ... | 758 | 21 | 120 | 8,563 |
| 1944 ... ... | 747 | 17 | 50 | 6,870 |
| 1945 ... ... | 849 | 14 | 145 | 7,687 |
| 1946 ... ... | 1,897 | 71 | 187 | 10,730 |
| 1947 ... ... | 2,760 | 54 | 65 | 10,829 |
| 1948 ... ... | 2,028 | 62 | 148 | 14,671 |
| 1949 ... ... | 1,875 | 62 | 365 | 17,286 |
| 1950 ... ... | 1,512 | 42 | 324 | 12,954 |
| 1951 ... ... | 1,142 | 24 | 282 | 5,796 |
| 1952 ... ... | 1,076 | 11 | 78 | 5,220 |

### (6) PORT HEALTH WORK AND QUARANTINE

94. The Ports on the Mauritius seaboard are Port Louis and Mahebourg, but all ocean-going vessels call at Port Louis which has a marked seasonal trade connected with the sugar crop. The Medical Officer of Health, Port Louis, assisted by the Port Health Inspector is responsible for health measures in the port area.

Table XVII summarises the work done by the Port Health Authority.

### TABLE XVII

| | |
|---|---|
| Passengers under surveillance ... ... ... ... ... ... | 3,790 |
| Vessels arriving ... ... ... ... ... ... ... ... | 279 |
| Crews examined ... ... ... ... ... ... ... ... ... | 18,653 |
| Vessels given pratique on arrival ... ... ... ... ... ... | 247 |
| Vessels given pratique after disinfection of the linen and effects of the passengers and crew ... ... ... ... ... ... | 144 |
| Vessels given pratique after fumigation of cargo ... ... ... | 92 |
| Vessels arriving from infected ports ... ... ... ... ... | 32 |

95. The airport which complies with the requirements of the International Sanitary Regulations, is in the south of the island at Plaisance. It continued to be under the responsibility of the District Medical Officer assisted by a Sanitary Inspector. 119 civil aircraft arrived in the Colony with 2,492 passengers. Of these, 765 coming from infected areas were put under surveillance.

96. The quarantine station is at Cannoniers' Point in the district of Pamplemousses. It is under the care of a steward who lives on the spot.

### (7) Water Supplies

97. The progress made in 1952 was as follows:—

#### (*a*) *Mare-aux-Vacoas System*

The two new filters at La Marie, together of an area of 15,712 square feet, constructed in 1951 were put into operation early in 1952 thus bringing the total available filtering area at La Marie to 122,984 square feet. The construction of another two filters of the same size has begun.

The 10″ main pipe joining La Marie to the new reservoir of 500,000 gallons under construction at Trou-aux-Cerfs, Curepipe, was completed, and the installation begun of two new electric pumps for pumping water through this main from La Marie to the Trou-aux-Cerfs Reservoir. The new pumps, of a capacity together of 650 gallons/min. and to work under a head of 350 feet, as well as the reservoir at Trou-aux-Cerfs and the new Pure Water Tank of 500,000 gallons at La Marie, will be put into operation early in 1953.

The laying of a new main of 8″ pipes to connect La Brasserie Reservoir to Didier Hill Reservoir was about half completed at the end of 1952. A 5″ line from La Brasserie Reservoir to Midlands Road was laid and is being continued by a 3″ line to Midlands Village.

33,000 feet of 5″ and 4″ pipes and 4,200 feet of 2½″ pipes for bringing Mare-aux-Vacoas water supply into Black River District were laid in 1952 and two reservoirs: one at Trois Mamelles of 14,000 gallons and the other at Bon Asile of 40,000 gallons were completed, and the construction of another of 150,000 gallons at Beaux Songes was in progress.

#### (*b*) *District Water Supplies*

*Piton du Milieu Reservoir*: About 25 per cent of the earthwork remained at the end of 1952 to complete the reservoir. The 18″ pipe line 23,000 feet long which joins the reservoir to Quartier Militaire was completed except for a length of about 3,000 feet and will be put into service in 1953 at the same time as Piton du Milieu Reservoir. A service reservoir of 150,000 gallons at Quartier Militaire at the end of the 18″ pipe line has been completed. The pipes which are to be laid from this service reservoir towards Camp de Masque and Montagne Blanche and which have been on order for some time are expected at the end of 1953.

The 15″ pipes for the pipe line between Piton du Milieu Reservoir and Cluny for Grand Porf and Savanne Water Supplies are due to arrive early in 1953. Pipes to extend the supply from Cluny to Grand Port and Savanne are on order.

The order for the rapid sand filters near Piton du Milieu Reservoir to deal with 4,000,000 gallons per day has been placed with the Paterson Engineering Company who are proceeding with the design.

In Grand Port district the villages of Eau Bleue, Mare Chicose, St. Hubert and Riche en Eau which were without water supply were given a temporary supply from a spring on Eau Bleue Estate pending connection with Piton du Milieu System.

In Pamplemousses district the laying of the pipes ordered for the improvement of the water supply in Triolet from Plaine des Papayes Reservoir was begun at the end of 1952 when the pipes arrived.

### (8) HYGIENE OF SCHOOLS

98. The nucleus of a School Medical Service was established in 1952 when a School Medical Officer and the first two school nurses were appointed. Although provision exists for two more School Medical Officers and for more nurses, it was not possible during the year, owing to difficulties in recruitment to expand the service further, but a foundation, which rests on the periodic inspection of the school child, was thus laid.

The object of the Service is to promote the health and welfare of the school child with special emphasis on the ability of the child to derive the maximum benefit from the education provided.

99. School children have their own special health problems and to deal with these a School Health Service is essential. It has been said in some countries that the School Health Services may well become the basic health service of a nation. There is no doubt that, however comprehensive a Health Service for the community may be, a Health Service for the schools must be an integral part of it.

100. *Present scope of the School Medical Servicee.* The age groups subject to periodic medical examination are in order of preference :—

(*a*) *Entrants* :—Every pupil who is admitted for the first time to a primary school or to a Government Secondary School.

(*b*) *Leavers* :—Every pupil leaving a primary school shall be inspected during the last year of his attendance.

(*c*) *Intermediate Age-Group* :— (i) Primary Schools.
(ii) Government Secondary Schools.

The object of medical inspection is to assess the health of the child, and the degree, however slight, to which it is capable of improvement ; to note defects and to take steps to remedy them when possible; to take every opportunity to educate parents, children and teachers in health matters.

The periodic inspection is carried out at school and the parents are invited to be present. The Head Teacher or Class Teacher is also encouraged to be present. The School Medical Officer has the assistance of the School Nurse who ascertains the height and weight, reports on the child's state of cleanliness, removes the clothing to the hips and takes off shoes etc. . .

A complete examination is then made and the general condition is noted. All findings are recorded on a Medical card which remains throughout the child's school career.

It must be stated that this periodic Medical examination is the basic feature of the School Medical service it presents the best opportunity the School Medical Officer has for the promotion of "positive health" especially through direct personal health education of the child, parent and teacher.

Other children not in the age group are seen as "Specials" when presented by a parent, teacher or nurse for advice or examination.

At the end of the Medical inspection the School Medical Officer also visits the school premises and reports on his findings.

At a meeting held in June between the Director of Medical Services, the Director of Education and the School Medical Officer, the general policy to be followed was agreed upon and the School Medical Officer has been acting upon the decisions taken.

**101.** The attendance of parents in the primary school was good, varying from 76 per cent to 98 per cent.

The first school to be visited was Ripailles Government School and then followed the following nine schools :—

Verdun C.E.A.
Ruisseau Rose Government
Crève Coeur Government
Grand Bois Government
Bois Chéri Government
L'Avenir Government
Surinam C.E.A.
Cluny Government
Mare d'Albert Government.

During the August vacation, "Special Examination" of selected pupils of all Port Louis schools was carried out. Also from July to October weekly visits were paid to the School Holiday Camp at Cannoniers' Point and 1,376 children were inspected. In October, four home visits were paid in Trou d'Eau Douce with reference to a small chicken-pox outbreak among the schoolchildren.

**102.** Table XVIII is a record of medical inspection work carried out in the primary schools, the Royal College and the Queen Elizabeth College from July to December. The entrants at the Royal College

School had already been examined by a Medical Officer of the Department prior to the arrival of the School Medical Officer.

## TABLE XVIII

(*a*) *Primary Schools* :—

| | |
|---|---|
| Entrants examined ... ... | 824 |
| Specials ... ... ... ... | 415 |
| TOTAL ... | 1,239 |

(*b*) *Secondary School*:—

| | |
|---|---|
| Entrants examined ... ... | 129 |
| Specials ... ... ... ... | 25 |
| TOTAL ... | 154 |

| | *Primary Schools* | | | | *Secondary Schools* | | | |
|---|---|---|---|---|---|---|---|---|
| | *Entrants* | | *Specials* | | *Entrants* | | *Specials* | |
| | *Required Treatment* | *Required Observation* | *T* | *O* | *T* | *O* | *T* | *O* |
| Speech ... ... ... ... ... | 1 | 3 | 1 | — | — | — | — | — |
| Skin ... ... ... ... ... | 106 | 39 | 107 | 71 | 5 | 2 | 2 | 1 |
| Eyes Vision ... ... ... ... | 6 | 1 | 5 | 3 | 7 | 8 | — | 3 |
| Squint ... .. ... ... | 3 | 1 | 1 | 2 | — | — | — | — |
| Other ... ... ... ... | 2 | 1 | 1 | — | — | — | — | — |
| Orthopaedic :— | | | | | | | | |
| Posture ... ... ... ... | 4 | 4 | — | 4 | 2 | 6 | 1 | 1 |
| Flat Foot ... ... ... | 1 | – | — | — | 10 | 5 | 1 | 2 |
| Other ... ... ... ... | — | — | — | — | — | 2 | — | 2 |
| Teeth ... ... ... ... ... | 726 | 17 | 46 | — | 70 | 1 | 18 | — |
| Nose and Throat ... ... ... | 7 | 9 | 20 | 17 | — | 3 | — | — |
| Anaemia ... ... ... ... | 47 | 26 | 32 | 23 | 3 | 1 | — | — |
| Cervical glands ... ... ... | 3 | 43 | 8 | 2 | — | 6 | — | — |
| Ears Hearing ... ... ... | 2 | 11 | 4 | 6 | — | 1 | — | — |
| Otitismedia ... ... ... | 23 | 59 | 18 | 16 | — | — | — | — |
| Heart ... ... ... ... ... | 1 | — | 1 | 2 | — | — | — | — |
| Lungs ... ... ... ... ... | — | 8 | 14 | 10 | 1 | — | — | — |
| Hernia ... ... ... ... | 1 | 1 | — | 1 | — | — | — | — |
| Abdomen Spleen ... ... ... | — | 2 | — | — | — | — | — | — |
| Other ... ... ... | 2 | 6 | 1 | 6 | — | — | — | — |
| Psychological :— | | | | | | | | |
| Stability ... ... ... ... | 1 | 1 | — | — | — | — | — | — |
| Development ... ... ... | 0 | 1 | — | — | — | — | — | — |
| Other defects ... ... ... | 1 | — | 26 | 37 | — | — | — | — |
| General Condition ... ... ... | Good | 147 | | | 47 | | 7 | |
| | Fair | 499 | | | 68 | | 17 | |
| | Poor | 178 | | | 14 | | 1 | |

### *Medical Treatment*

103.—(*a*) 401 out of the 1,239 examined required medical treatment. This was provided mostly through the agencies of hospitals and dispensaries (including mobile). Where specialist treatment was required, this was arranged and provided free.

---

NOTE—(*a*) Most of the skin cases were scabies cases.
(*b*) The defective vision was due to congenital cataract and myopia.

(*b*) 104 pupils out of the 1,239 were put on one extra ration of milk and yeast at school.

(*c*) 1,874 pupils in 7 out of the 10 schools inspected have so far been de-wormed with tetrachlorethylene.

(*d*) 73 schools had no first aid cabinets. Provision has been made to supply these, and so far 21 schools have been supplied.

(*e*) No treatment was provided this year for secondary school pupils. Advice was given and in each case the Rector or the Headmistress wrote to the parents calling their attention to the defects found and asking them to make arrangements for treatment.

### *Public Health Work*

104. (*a*) *Bilharzia.*—Work continued during the year to determine the incidence of Schistosomiasis among school children. This work is dealt with in the Pathologist's report puublished under Appendix II.

(*b*) *B.C.G.* Tuberculin Testing and B.C.G. Vaccination continued throughout the year as described in the special section on tuberculosis.

(*c*) *T.A.B. Inoculations.*—Where required, anti-typhoid inoculations were carried out among schoolchildren by the Government Medical Officer in charge of the district in which the child lives.

105. *Work of the School Nurses.*—Besides making arrangements for the medical inspections, attending at these inspections, giving treatment for minor ailments and selecting those children for whom a special examination by the School Medical Officer was desirable, the School Nurses had a major responsibility for the cleanliness of the children. They had to visit shools and examine all children for cleanliness. This also gave them an opportunity for carrying out effective, quiet, health teaching.

With only two School Nurses it has been possible to tackle four districts only since the inception of the Service and a report of their work is shown below:—

34,357 children were examined for cleanliness in all schools in Port Louis, Plaines Wilhems, Savanne, Grand Port and also in the schools where medical inspections were carried out. The incidence rate for four districts only is given below:—

| *District* | *No. of pupils examined* | *Average % of Dirty Finger Nails* | *% with Nits* | *% with Nits and Vermin* |
|---|---|---|---|---|
| Port Louis ... ... ... | 10,669 | 24 | 13 | 5 |
| Plaines Wilhems ... ... | 14,952 | 16 | 15 | 8 |
| Grand Port ... ... | 3,943 | 44 | 20 | 5 |
| Savane ... ... ... | 3.315 | 33 | 16 | 5 |

These figures are disappointing, but so long as insanitary living conditions, ignorance and overcrowding persist *in the home*, work in the schools can only be palliative.

For head cleansing work, D.D.T. and Gammexane have been used. Great interest has been shown by the teachers and their co-operation in this work has been most encouraging. The aim at the moment is to prevent the spread to other children and at the same time instruct the children and their parents in the need for hygienic living.

106. *The milk and yeast Scheme.*—The Milk Scheme introduced in 1950 continued as before. During the year 8,223,174 rations were issued while 8,802,156 attendances were recorded, thus showing that 93·5 per cent of the pupils took the milk ration. By the end of the year, due to increased propaganda, this pecentage was higher still.

From February, the daily milk ration was supplemented by giving two yeast tablets to each child.

The two machines for making yeast tablets ordered in August 1951 arrived in November. Scales for weighing the milk rations are being supplied to schools since May, and so far, 138 schools have been supplied.

From November all Headteachers and teachers taking part in the supervision and distribution of the Milk Scheme were allowed one ration of milk to be consumed at school.

From 30th June a Milk Scheme such as exists in the Primary schools started at the Royal College. The children, however, pay ten cents for it. In September, 130 pupils out of the 312 in attendance were taking part in the scheme. It is hoped that a similar scheme will be introduced at the Royal College School and the Queen Elizabeth College next year, preferably with skimmed milk.

107. *Handicapped children.*—A list of the handicapped children who are being discovered during medical and cleanliness inspections in schools is being prepared by the staff and, gradually, provision will have to be made for their special education.

The department is also preparing a list of the deaf and dumb in the Colony and the School Medical Service Staff is co-operating in this matter.

So far the vast majority of physically handicapped pupils encountered in the primary schools are victims of anterior poliomyelitis. Some of them have already had treatment and wear appliances obtained from the Orthopædic Hospital, and their follow-up in the schools is mainly done by the staff of that hospital with the co-operation of the School Health Service Staff.

At the Floreal Hospital school there were on an average 110 pupils during the year and four teachers, including the Headteacher, were responsible for their education. Generally, the curriculum in ordinary schools was followed with emphasis naturally on the various types of handwork. A notable feature was that everything was being done whether through work or play to keep the children busy during most hours of the day.

There are unfortunately no classrooms for the children who can move about or who can be carried to a classroom. The classes are held in the hospital wards. The school is also understaffed. More than a maximum of 20 pupils should not be allocated to a teacher. Besides visits from parents, the pupils receive visits from Scouts or Guides and the Visual Education Branch of the Education Department gives them regular film shows.

On the whole the pupils are happy and they don't have to spend long hours doing nothing—a criticism often levelled against a hospital school.

### (9) HEALTH EDUCATION

108. *In Schools.*—It is fitting that the special chapter on Health Education should immediately follow the one on the School Medical Service. The hygienic training of the child by inculcating in him the laws of health, and training him in the right habits and conduct form an important part of the work in the School Medical Service. Mention has already been made of the work continually being done by the Staff of the School Health Service ; but the most important person in this sphere of work is the class teacher. He is the only one who sees the child every day and stays longest with him to modify his habits, etc., The teacher has also numerous opportunities through events occuring in the daily routine, e.g., washing hands before meals, after having been to the W.C. etc., to impart some health education.

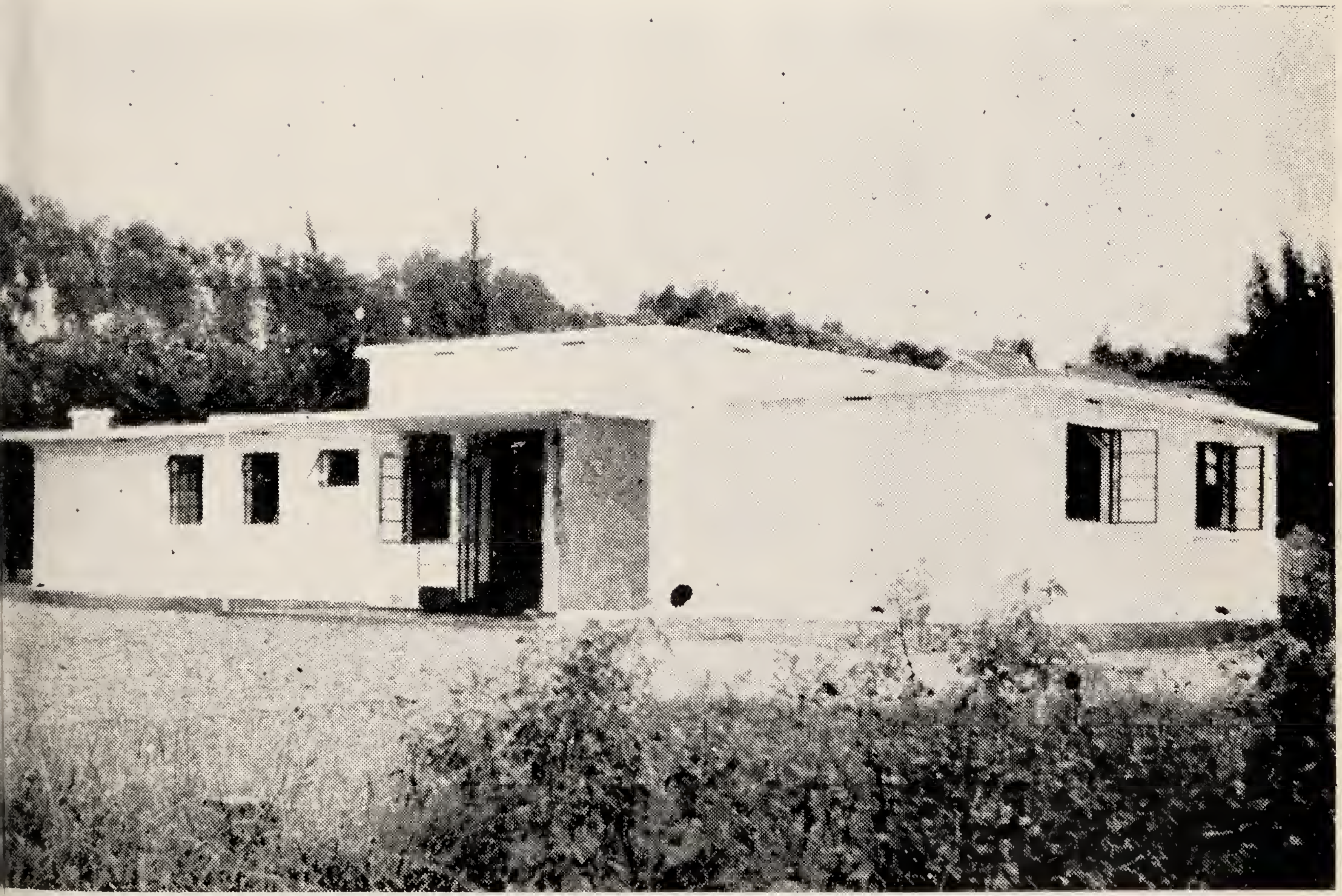
Other opportunities also are presented to him when the Nurse, or the School Medical Officer, or the Assistant Nutrition Officer or a Sanitary Inspector visits the school. He can conveniently improvise a talk to his pupils on health education on the occasion of the visit. From a practical point of view such talks in many ways have far more effect and make better impression on the children than the regular "hygiene class". It will be obvious therefore that if the teacher is conscientious he can do a lot of effective health education.

During the year a notable event in the realm of Health Education ccurred, which profited not only the adult population but also the schoolchildren and their teachers : it was the Health Exhibition organised by the Medical Department. About 12,000 pupils from all parts of the island accompanied by their teachers visited this exhibition.

It was intended to follow up this new experience gained by the pupils by an Essay competition on the subject ; but unfortunately the period of class examinations followed closely and later the vacations started. But there is no doubt as to the enormous influence it has had on the school population.

The health education programme received a further impetus through an allocation of Rs. 1,000 during the financial year. This has enabled the School Service to join the "Overseas Associate Membership Scheme" of the Central Council of Health Education in the United Kingdom. The Council's good work in the sphere of Health Education is well-

A SECTION OF THE 1952 HEALTH EXHIBITION



THE NEW MATERNITY AND CHILD WELFARE CENTRE AT VACOAS NEARING COMPLETION

known and with the annual subscription of £ 10 a year, the School Health Service is assured of a continuous flow of all the valuable material prepared by the Council, as well as their expert advice and help.

In co-operation with the Visual Education Officer arrangements are also being made to order suitable film strips from the Council for Health propaganda among teachers and pupils alike. Work has also been started on material for a film strip on "The School Health Service in Mauritius" and it will shortly be sent for processing in the United Kingdom.

109. *Popular Health Education.*—The mobile cinema operated by the Public Relations Department continued to be of great assistance particularly in the rural areas, in our mission of health education of the people. Several health talks were broadcast through the courtesy of the Mauritius Broadcasting Service and the press extended valuable support by publishing accounts on health matters whenever this was necessary. Sanitary Inspectors contributed by giving talks in simple lenguage in some of the Social Welfare Centres. These numerous activities added to the endlesss propaganda carried out by Medical Officers in the course of their numerous duties, the Sanitary Inspectors and the midwives during their house-to-house visits, the mobile dispensaries, the mobile ante-natal clinic and the dressers in the static dispensaries are of great importance in spreading the knowledge of hygiene and sanitation.

110. *The 1952 Health Exhibition.*—The attitude of the majority of the Mauritius population to public health was, up to the recent past, one of complete indifference. Diseases being attributed to supernatural causes, were considered as inescapable, while the health officer was regarded as a worthless individual whose sole object was to spy on his neighbours.

Following the progressive expansion of social services, the inhabitants began to take notice of the fact that maternal and infant deaths are rare in the households where doctors, nurses and midwives have a say or that a village threatened with an outbreak of typhoid fever can be made safe by mass vaccination, so much so that slowly, but surely, came a preference for natural explanation of ill-health and disease.

Then, it was conclusively proved that malaria—the one disease which the Mauritians thought would never be brought under control—could be eliminated from the island, with the result that the instrument of health education, the gradual introduction of which into the local background is perhaps the most significant development of recent years, is fast becoming an accepted aid of the Colony's daily life.

The permanent task of improving conditions in the homeland belongs to the people who live in it, without whose co-operation no public health work can be successful. In the light of the wide enthusiasm which the virtual eradication of malaria had aroused, it was considered that the year 1952 was most appropriate for a health exhibition, which would indicate to the inhabitants of Mauritius how much more remained to be done in the field of prevention and also remind them that they should not trust to luck and superstition, but to science and reason.

In order to appeal to the popular mind, the exhibition was planned on very simple lines, complete reliance being placed on pictorial presentations and models supported by short, vivid slogans.

Material obtained from outside was used to depict an idea only when difficulties were encountered to make a local substitute readily available for the purpose. Otherwise, it was felt—and quite rightly—that to focus attention, the whole show should be as natural as possible and should take full account of local scenery, types and customs. The Mauritian artists selected to assist in the production of exibition material performed their task in a most creditable manner.

Before entering the exhibition hall, children were advised by means of a large poster to ask themselves eleven questions such as: "Am I well developed? Are my clothes neat and tidy? How do I feel?" and so on; and they were informed that if they could answer all the questions with "yes", they had learnt the principles of healthy living; otherwise it was just as well to take the opportunity of the exhibition to review them.

The first section indicated that the battle for health was a permanent one against enemies which know no rules and have no pity. The ennemies: germs, parasites, insects, animals; malnutrition etc. . . were then depicted; the victims and those engaged in the battle: doctors, sanitary inspectors, nurses, midwives, veterinary surgeons, agriculturists, etc. . . were shown; the arms at our disposal: vaccines, sera, drugs, instruments, disinfectants, insecticides, X-Ray equipment and the like were fully illustrated; and finally, the results so far achieved in Mauritius were explained with the help of graphs and figures arranged in such an elementary way that they could be grasped by any visitor.

This was followed by numerous sections which covered the following:—

(*a*) The progress of medical science.

(*b*) The history of pharmacy.

(*c*) Environmental and Social Hygiene:—
  (i) Housing, cleansing, disposal of human and house refuse, water supplies.
  (ii) Food and Food Inspection.
  (iii) School Hygiene.
  (iv) Maternal and Infant Welfare.

(*d*) The social scourges: tuberculosis, alcoholism, veneral diseases.

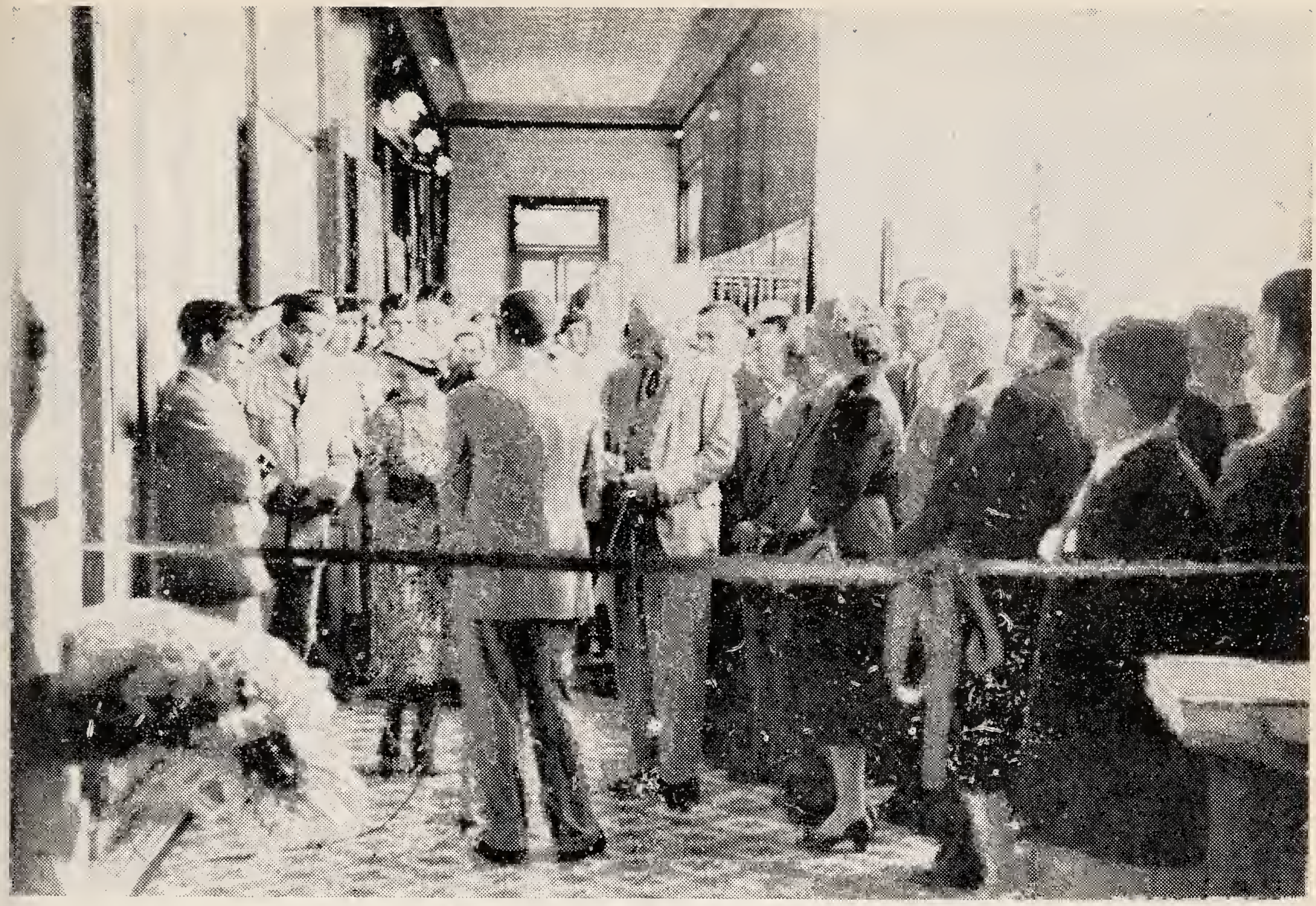
(*e*) Communicable Diseases:—
  (i) Malaria and mosquito-borne diseases.
  (ii) Excremential diseases.
  (iii) Air-borne diseases.

(*f*) Nutrition.

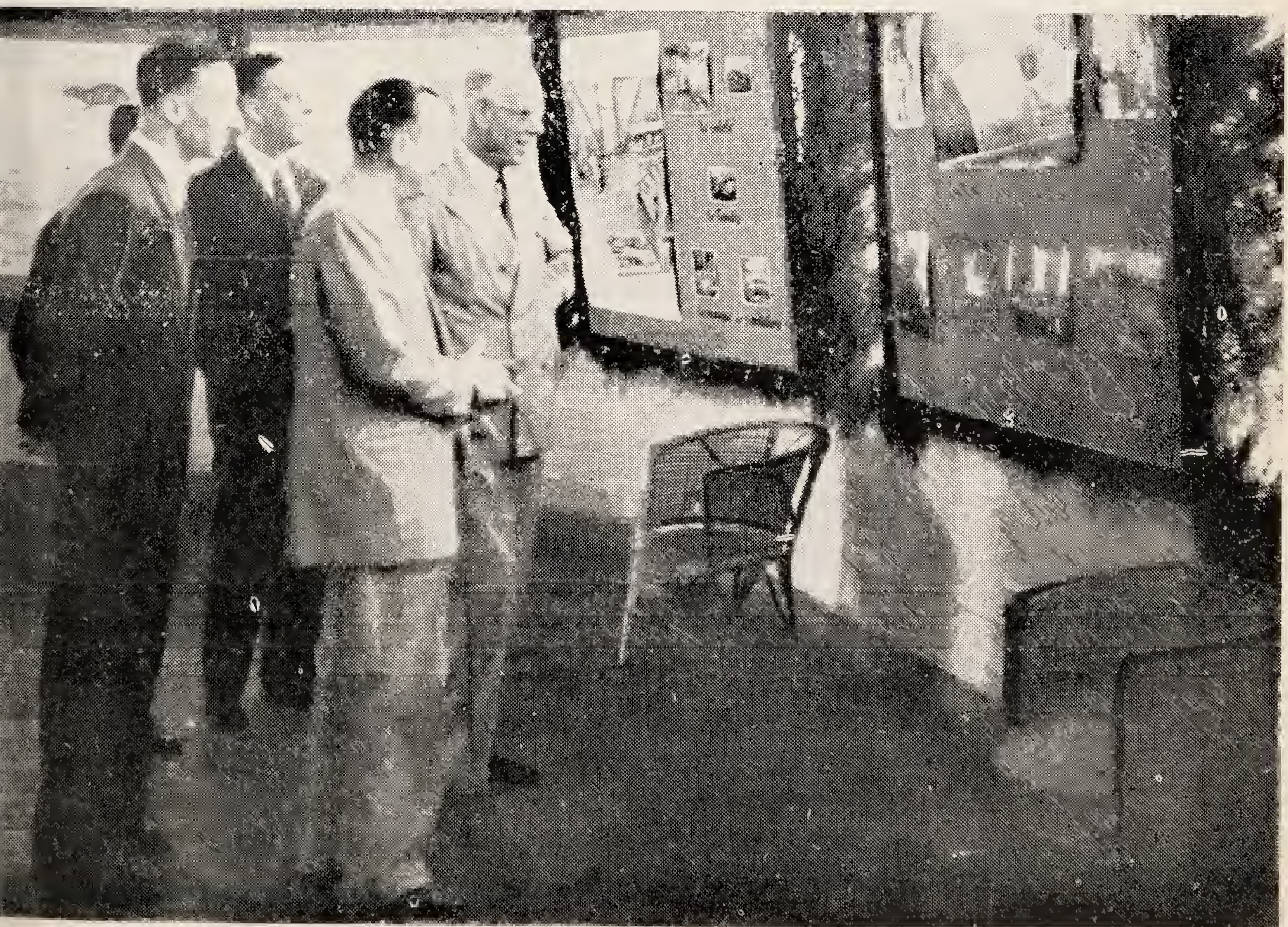
(*g*) Personal Hygiene.

(*h*) International Hygiene.

(*i*) Home accidents and road safety.



THE OPENING OF THE 1952 HEALTH EXHIBITION BY HIS EXCELLENCY THE GOVERNOR



THE 1952 HEALTH EXHIBITION—HIS EXCELLENCY THE GOVERNOR ENTERING THE EXHIBITION HALL

In addition there was one section on First Aid and one on Blood Transfusion : advantage was taken of the exhibition to make a special appeal to donors. Great stress was laid on personal hygiene, dental care, food poisoning, tuberculosis, nutrition. enteric fever, amœbiasis and filariasis. All the helminths and all the insects of public health importance encountered in Mauritius were represented, more space being devoted to the house-fly and the mosquitoes. Poliomyelitis, which is now firmly established in the Colony, had a section by itself and the modern ideas on occupational therapy and rehabilitation were brought to light with some detail.

The Exhibition was held in the town of Rose Hill which has a hall of suitable size and which is accessible from every part of the island. It was opened by His Excellency the Governor on the 8th November and between that date and the evening of the 16th November when it closed down, it was visited by 126,252 persons, a figure which is equivalent to one quarter of the island's population. The Exhibits have now been divided into four parts which will be shown in the schools and in the remote parts of the island through the Education Department and the three Civil Commissioners.

During the eight days the Exhibition remained open in the central area of Rose Hill, two film shows on health matters which were attended by large crowds, were given daily; and every night, a talk on a health topic was broadcast through the Mauritius Broadcasting Service. These talks, published in the form of a booklet, were made available to the members of the public as from the first day of the Exhibition.

It is most gratifying to record the enthusiasm with which the Health Exhibition was received by every section of the community. One is justified in expressing the hope that its teaching will have a lasting effect on the course of public health in Mauritius.

# PART VI

## Maternity and Child Welfare.

111. Reference was made in last year's report to the objects and activities of the Maternity and Child Welfare Society which plays an important part in the welfare work coordinated by the Health Department.

The activities of this Society in 1952 were as listed below :—

| | |
|---|---|
| Confinements ... ... ... ... ... ... | 2,532 |
| Attendances of women at consultations (exclusive of attendances at ante natal clinics held by Superintendents) ... ... ... ... ... | 3,965 |
| *Attendances of infants at consultations ... ... | 7,236 |
| *Attendances of infants at Centres for weighing and supervision ... ... ... ... ... | 15,895 |
| Visits to infants... ... ... ... ... ... | 2,432 |
| Average number of infants receiving milk daily ... | 986 |
| Average number of litres of milk distributed daily... | 508 |

112. *Ante natal clinics*—The Superintendent of Midwives, to whom is entrusted the supervision of persons practising midwifery, held regular ante-natal clinics at Curepipe, Vacoas, Henrietta, Camp Fouquereaux, Quatre Bornes, Rose Hill, Beau Bassin, Rose Belle, Benares, Rivière des Anguilles, Flacq and Long Mountain.

The Visiting Matron also held ante-natal clinics at Medine (Camp de Masque), Mahebourg and Bel Air, and the total number of expectant mothers in attendance was 1,960.

113.—(*a*) During 1950, a district midwifery service based on the Civil Hospital was initiated in Port Louis, the main object being to provide training in the patient's own homes for the pupil midwives who will be sent to the remote districts of the island after qualifying. Another reason was that the ante-natal clinic which started at Civil Hospital in 1947 had become so popular that it was so longer possible to deal with all the cases deserving to be delivered in hospital. It is gratifying to note that expectant mothers are becoming more and more health conscious and that they now wish to have better care during their confinements than they used to have in the past. In that respect, the district midwifery service has been of considerable value. It should be pointed out that all cases delivered in the district must previously attend the antenatal clinic at the Civil Hospital.

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*The centres were closed to infants during the months of April and May 1952 on account of the outbreak of Poliomyelitis.

(*b*) The average weekly attendance at the Civil Hospital Ante-natal Clinic was 87 in 1952 as compared with 70 in 1951.

The following figures relate to the Port Louis District Midwifery Service :—

| | |
|---|---|
| No. of ante natal visits ... ... | 447 |
| No. of confinements ... ... | 1,029 |
| No. of post natal visits ... ... | 13,012 |

(*c*) The Mobile Ante-natal Clinic, which visits at regular intervals 76 outlying villages and hamlets is increasingly popular, and requests continue to be received for additional halting places to be included in its itinerary. During the year under review, 2,615 new cases were seen, with 3,902 re-attendances.

114. 48 midwives are employed by Government, 19 of whom are seconded to the Maternity and Child Welfare Society, while two are stationed in the dependency of Rodridues. The midwives working directly under officers of the Department made 19,597 visits and attended 1,721 confinements. The figures quoted in the first paragraph of this part refer to the midwives of the Maternity and Child Welfare Society.

115. There were 31 pupil midwives in training at Victoria and Civil Hospitals during the year. 8 qualified in 1952.

# PART VII

## Prisons

(*a*) *Population.*—The total number of prisoners admitted in this Institution during the year was 1,370 and the daily average of population was 326·33.

(*b*) *Prevalence of sickness.*—The total number of cases of sickness registered was 4,604. Out of this number, 247 were admitted into hospital. The in-patients included 35 cases from the Borstal Institution and 18 cases from the Port Louis Prison transferred to Beau Bassin Prison Hospital for treatment.

| | |
|---|---|
| The daily average of sick treated out-door was ... ... ... | 11·9 |
| The daily average of patients in hospital was ... ... ... | 11·7 |
| The sick rate calculated on the daily average in hospital was ... | 4·74 % |

(*c*) *Admissions.*—Table showing monthly admissions into hospital—

| | | | |
|---|---|---|---|
| January ... ... | 30 | July ... ... ... | 17 |
| February ... ... | 20 | August ... ... | 22 |
| March ... ... ... | 26 | September ... ... | 18 |
| April ... ... ... | 19 | October ... ... | 19 |
| May ... ... ... | 18 | November ... ... | 14 |
| June ... ... ... | 21 | December ... ... | 23 |

Total stay and average stay per patient for the year, compared with previous years :—

| *Year* | *Total stay in days* | *Average stay per patient* |
|---|---|---|
| 1948 ... ... | 9,024 | 13·08 |
| 1949 ... ... | 10,314 | 18·57 |
| 1950 ... ... | 8,367 | 19·32 |
| 1951 ... ... | 5,497 | 15·57 |
| 1952 ... ... | 4,232 | 17·13 |

Monthly admissions into hospital for the commoner diseases :—

| | *January* | *February* | *March* | *April* | *May* | *June* | *July* | *August* | *September* | *October* | *November* | *December* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Malaria ... | — | — | — | — | — | — | — | — | — | — | — | — |
| Influenza ... | 8 | 4 | 3 | 2 | 1 | 4 | 2 | 1 | 3 | 3 | 1 | 8 |
| Anæmia ... | — | 1 | — | 1 | — | 2 | 1 | 2 | 1 | — | — | — |
| Dysentery ... | 1 | — | 2 | 2 | 2 | — | — | 2 | 1 | — | — | — |
| Diarrhoea<br>Enteritis | 6 | 5 | 2 | 4 | 1 | — | — | — | — | 1 | 2 | — |
| Avitaminosis | — | — | — | — | — | 1 | — | — | — | — | — | — |
| Asthma ... | 2 | 1 | — | 1 | — | — | 1 | 2 | — | 1 | — | — |
| Ankylost. ... | 1 | 2 | 1 | 1 | — | — | — | 3 | 1 | — | 2 | — |

(*d*) *Venereal Diseases.*—The number of cases was 31, out of which 7 were suffering from secondary syphilis, 3 from tertinary syphilis and the 21 others from gonorrhoae and its complications.

(*e*) *Deficiency Diseases.*—Only one case of mild pellagra was treated as in-patient. No other case of avitaminosis was noted among the immates.

(*f*) *Scabies.*—The number of cases during the year was 65. All these prisoners were admitted in the Prison already suffering from the disease.

(*g*) *Malaria.*—No case of malaria was noted. The fact that the immates of Beau Bassin Prison are drawn from all parts of the Island and that there was no malaria occurring amongst them proves once more the efficacy of the Malaria Campaign in Mauritius.

(*h*) *Deaths.*—No death occurred amongst the inmates during the year.

Number of deaths during the 5 previous years :—

| *Year* | *Number* | |
|---|---|---|
| 1947 ... | ... 10 | (including 2 at Civil Hospital) |
| 1948 ... | ... 5 | |
| 1949 ... | ... 1 | |
| 1950 ... | ... 1 | |
| 1951 ... | ... 0 | |
| 1952 ... | ... 0 | |

(*i*) *General Remarks.*—On the whole the health conditions were good. Malaria was unknown. All the Prison buildings were thrice sprayed with D.D.T. Some of the inmates were vaccinated with B.C.G. and as usual all prisoners were inoculated with prophylactic T.A.B. vaccine on their admission to the Prison.

# PART VIII

## Welfare of the Blind

117.—(*a*) The survey of the Blind, mention of which is made in my previous year's report, is still progresssng. Seven new cases of blindness were registered during the year, bringing the total number of blind persons registered to 56, distributed as follows:—

| *Age group* | *1 to 4 years* | *5 to 14 yrs* | *15 to 24 yrs* | *25 to 44 yrs* | *45 to 64 yrs* | *65 to 74 yrs* | *Total* |
|---|---|---|---|---|---|---|---|
| Male ... ... | — | 2 | 2 | 11 | 9 | — | 24 |
| Female ... ... | 1 | — | 3 | 5 | 21 | 2 | 32 |
| TOTALS ... | 1 | 2 | 5 | 16 | 30 | 2 | 56 |

Considering the population of Mauritius, which was very nearly 510,000 on 31st December, 1952, it can be said that the number of blind persons in the Colony is low as compared with that in other countries.

The following gives the prevalence of blindness in Mauritius as compared with that in other countries, the rate for Mauritius being calculated on the mid-year population which was 501,469:—

| | *Rate per hundred thousand population* |
|---|---|
| 1. Nigeria ... ... ... ... ... | 549 |
| 2. Egypt 1937 census ... ... ... | 545 |
| 3. India 1944 Survey ... ... ... | 500 |
| 4. England and Wales ... ... ... | 179 |
| 5. U.S.A. 1950 Estimate .. ... | 173 |
| 6. Belgium 1950 Estimate ... .. | 52·5 |
| 7. Netherlands 1948 Survey ... ... | 47 |
| 8. Mauritius Special Survey 1951–52 ... | 11 |

(the figures are quoted from statistics published in the Chronicle of the World Health Organization, May 1953).

Associated with this Survey, is a scheme to enable the early detection of any eye diseases which may ultimately lead to blindness. To that effect, instructions have been issued to Medical Officers i/c hospitals and dispensaries to be on the look-out for all patients suffering from eye defects, whether or not it is on account of such defects that these patients seek advice. Such patients, for whom a special Register is kept at all hospitals and dispensaries, are immediately referred to the eye specialist, and they accordingly get expert treatment in time, before their eye disease reaches such an advanced stage as to render recovery or improvement impossible or very improbable.

The cooperation of the Director of Education has been enlisted to help in this scheme, and school teachers have been instructed to refer children suffering from defects of the eye to the Government Medical Officer of the locality, by arrangement.

The Director of Medical Services still acts in the capacity of Registrar of the Blind.

### Welfare of Deaf and Dumb Children

(*b*) A survey of deaf and dumb children has been started during the year with a view to their eventual rehabilitation. The survey is, for the present, only a fact-finding undertaking. All Medical Officers, nurses, midwives, and Sanitary Inspectors of the Department have been instructed to report to Headquarters, for purpose of registration, the names and addresses of any afflicted children they may come across, together with any other useful information. The Public Assistance Commissioner and the Maternity and Child Welfare Society have also kindly accepted to co-operate in the survey. At the end of the year under review, the names of 46 deaf and dumb children had been registered.

# PART IX

## (i) Rodriguez

118. Rainfall has been scanty in the Dependency during the year, and the crops poor. As a result, the production of foodstuffs has been insufficient, and there has been a number of cases of anaemia and avitaminosis, though the degree was fortunately not severe. In spite of overcrowding and malnutrition, the incidence of tuberculosis remains low and the Rodriguan, who is of a sturdy stock, remains basically healthy. But prevailing conditions might favour the spread of the disease.

There has been an outbreak of influenza in the last quarter of the year, which was responsible for a number of cases of bronchitis and pneumonia. The case mortality was, however, very low.

The prevailing diseases in Rodrigues were anaemia, gastroenteritis, amœbiasis, influenza, bronchitis and venereal disease.

Much remains to be done to improve sanitary conditions in the Dependency, but every endeavour is made to enlist the co-operation of the population, and the advice and help readily provided by the responsible authorities have resulted in an appreciable improvement of existing conditions.

Mosquito breeding places, specially in the Port Mathurin area, have been periodically oiled, and a number of premises have been treated with D.D.T.

The School Milk Scheme which started in January 1951, is increasingly popular, and proving very beneficial.

There are 3 hospitals in Rodrigues, one at Port Mathurin—which is equipped for major surgery and has a maternity annexe—one at Mont Lubin and one at La Ferme. The nursing and domestic staff at these hospitals has been strengthened. The number of patients receiving treatment at these institutions has substantially increased during the year under review. The card system has been introduced for all patients treated in the hospitals and dispensaries of the Dependency.

Antenatal clinics were held regularly. The Public Assistance Commissioner provides powdered and condensed milk for expectant mothers who are financially unable to procure it and for babies up to one year old, and also for other deserving cases.

The water supply is barely adequate for the needs of the population and piped water is supplied to a few local localities, viz. La Ferme, Oyster Bay, Port Mathurin and their immediate surroundings. In other places, wells and streams provide water for human consumption. In spite of fairly frequent contamination, the incidence of serious water-borne diseases has been fairly low.

Extensive repairs have been made during the year to the main pipe lines and a number of the more important springs have been cleaned and provided with concrete slabs to prevent their pollution. Reservoirs have also been repaired and cleaned. One new dam has been constructed at Acacia to improve the water supply to Oyster Bay. Eight new public fountains have been erected.

The following figures are quoted from the Annual Report of the Government Medical Officer, Rodrigues :—

| | | | |
|---|---|---|---|
| Estimated population as at 31st December, 1952 | | | 15,504 |
| Natural increase of population | | | 447 |
| Number of births | 569 | Birth rate | 37·8o/oo population |
| Number of deaths | 122 | Death rate | 7·8o/oo population |
| Still births | 18 | | |
| Infantile mortality rate | 61·5o/oo | | |
| Maternal mortability rate | 1·7o/oo | | |

## PORT MATHURIN HOSPITAL

Out-patient attendances numbered 13,778; an increase of 2,303 on last year.

931 patients were admitted to hospital; an increase of 264 on last year.

108 operations were performed including 3 appendicectomies and 25 fracture cases.

Dental extractions numbered 289.

Vaccinations : 195 were performed against small pox of which 11 were unsuccessful.

Causes of death in hospital were :—

| | | | |
|---|---|---|---|
| Congenital debility | 2 | Peritonitis | 2 (one an acute perforated appendix) |
| Prematurity | 2 | | |
| Enteritis | 2 | Pulmonary T.B. | 1 |
| Senility | 1 | T.B. abscess | 1 |
| Myocarditis | 3 | Fish poisoning | 1 |
| Cerebral Haemorrhage | 2 | Cirrhosis of Liver | 1 |
| Menengitis T.B. | 1 | Asthma | 1 |
| Menengitis purulent | 1 | Paraplegia | 1 |

## PORT MATHURIN MATERNITY

| | |
|---|---|
| Antenatal clinic | 192 pregnant women were examined |
| Confinements | 128 pregnant women were confined in hospital and 19 delivered in district |
| Still births | 8 |
| Turin pregnancies | 4 |
| Operations | 1 external version<br>1 extraction of breech with extended legs |
| Death | 1 case of central placenta praevia |

## LA FERME HOSPITAL

| | |
|---|---|
| Outpatient attendances | 13,190 |
| Admissions to hospital | 106 |
| Deaths | 2 |
| Minor Operations | 56 |
| Vaccinations | 161 of which 20 were unsuccessful |
| Causes of death | 1 Asthma and Anaemia and 1 Anæmia |

### Mont Lubin Hospital

| | |
|---|---|
| Outpatient attendances ... | 16,029 |
| Admissions to Hospital ... | 263 |
| Deaths ... ... ... | 3 |
| Minor operations... ... | 29 |
| Dental Extractions ... | 362 |
| Vaccinations ... ... | 205 of which 55 were unsuccessful |

Causes of death were : one rheumatic fever, one acute bronchitis, one amœbiasis and debility.

### Miscellaneous

20 Patients were sent to Mauritius at Government expense for treatment there: 5 cases of leprosy ; other cases were sent by the Police for mental disease.

*Meat Inspection.*—215 heads of cattle were slaughtered and their viscera examined, of which 8 were condemned.

*Prisons.*—Prisons were periodically examined during the year. Prisoners are seen on admission, discharge and transfer to Mauritius.

*Port.*—Pratique was given to all vessels that called at Port Mathurin during the year.

## (ii) The Chagos Archipelago

There is nothing of major interest to report, except that many of the recommendations made as a result of my visit to the Archipelago in September 1951 have already been implemented. A Sanitary Inspector has been posted to the Chagos and the advice and guidance provided by him have already appreciably altered local conditions.

### ACKNOWLEDGEMENT

During the year, the Department succeeded not only in maintaining a very satisfactory standard of health and sanitation but also in expanding, in spite of the shortage of staff, inadequate accommodation, delays in supplies and other difficult circumstances. The results achieved are due entirely to the loyal and active cooperation of members of the staff and particularly to the devotion of the many who did not hesitate to work longer hours when the interests of the community so required.

A complete yearly report on the activities of a vast department cannot be produced without the assistance of collaborators, who once again helped to their utmost.

I am deeply grateful and I take this opportunity to express my heartfelt thanks to them all.

R. Lavoipierre,
*Director of Medical Services.*

20th August, 1953.

# APPENDIX I

## Work done at the Central Laboratory

The work of the laboratory is divided up into the following sections:—

| | | | |
|---|---|---|---|
| I. | Medical Biology | V. | Serology |
| II. | Pathology | VI. | Veterinary |
| III. | Bacteriology | VII. | Laboratory Products |
| IV. | Haematology | VIII. | Survey |

### I. MEDICAL BIOLOGY

A. 7,849 SIMPLE ROUTINE EXAMINATIONS WERE MADE

(a) *Blood* (*microscopical*)

| | |
|---|---|
| Films for malaria :— | |
| Plasmodium vivax ... ... ... | 1 |
| No parasites found ... ... ... | 267 |
| Films for microfilariae :— | |
| Wuchereria Bancrofti ... ... | 34 |
| No microfilariae ... ... ... | 156 |
| Total number examined ... ... ... | 458 |

(b) *Fæces* (*microscopical*)

| | |
|---|---|
| Total number examined ... ... ... | 4,252 |
| Helminths :— | |
| Hymenolepsis nana ... ... ... | 1 |
| Dipylidium caninum ... ... ... | 1 |
| Heterodera marioni ova ... ... | 6 |
| Enterobius vermicularis ova ... ... | 9 |
| Clonorchis sinensis ... ... ... | 4 |
| Trichuris ova ... ... ... | 1,408 |
| Ascaris ova... ... ... ... | 1,104 |
| " Hookworm " ova ... ... ... | 2,412 |
| Strongyloide larvae ... ... ... | 68 |
| Tricostrongyle ova ... ... ... | 1 |
| Protozoa :— | |
| Entamoeba histolytica ... ... | 198 |
| Entamoeba coli ... ... ... | 281 |
| Vegetative and precystic amoeba ... | 113 |
| Endolimax nana ... ... ... | 147 |
| Giardia intestinalis ... ... ... | 182 |
| Iodamoeba Butschlii... ... ... | 1 |
| Flagellate cercomonas ... ... | 7 |
| Chilomastix mesnili ... ... ... | 40 |
| Trichomonas intestinalis ... ... | 76 |
| Blastocystis hominis ... ... ... | 1,111 |
| No helminths, no protozoa ... ... | 638 |

### (c) *Urine (microscopical)*

| | |
|---|---|
| Total number examined | 2,436 |
| Hyaline casts | 231 |
| Granular casts | 219 |
| Waxy casts | 14 |
| Leucocytic casts | 65 |
| Cellular casts | 36 |
| Red Blood cells casts | 22 |
| Schistosoma haenatobium | 98 |
| Trichomonas vaginalis | 31 |

### *(d) Urine (Pregnancy test)*

| | |
|---|---|
| Total number examined | 478 |
| Positive male toad test | 201 |

### *(e) Cerebro Spinal Fluid*

| | |
|---|---|
| Total number examined | 115 |
| Leucocyte count | 34 |
| Differential Leucocyte count | 61 |
| Nonne Apelt test for globulin | 20 |

### *(f) Pus, Discharges and Scrapings etc. (Microscopical)*

| | |
|---|---|
| Total number examined | 110 |
| Treponema pallidum | 4 |
| Differential count | 8 |

## II. PATHOLOGY

Morbid histological examinations were made on 203 specimens of material.

HEAD AND NECK :—

| | | |
|---|---|---|
| Brain : | Petechial haemorrhage | 1 |
| | Meningitis | 1 |
| Scalp : | Epithelioma | 1 |
| Skull : | Secondary Adenocarcinoma | 1 |
| Eyes : | Ophthalmitis | 2 |
| | Papilloma | 1 |
| Nose : | Granuloma | 1 |
| Frontal Sinus : | Papilloma | 1 |
| Mouth : | Stomatitis | 1 |
| Tongue : | Squamous Carcinoma | 1 |
| Jaw : | Capillary haemangioma | 1 |
| Salivary Gland : | Mixed parotid tumour | 2 |
| Neck : | Fibroma | 2 |
| Thyroid : | Aberrant thyroid | 1 |
| | Colloid goitre | 1 |
| | Adenoma | 2 |

THORAX :—

| | | |
|---|---|---|
| Breast : | Fibroadenoma | 3 |
| | Encephaloid Carcinoma | 3 |
| | Scirrhous Carcinoma | 4 |
| | Adenocarcinoma | 1 |
| | Chronic mastitis | 1 |

ABDOMEN :—

| | | |
|---|---|---|
| Stomach : | Adenocarcinoma | 3 |
| | Scirrhous carcinoma | 2 |
| | Chronic ulcer | 1 |
| Pancreas : | Pancreatitis | 1 |
| Appendix : | Chronic appendicitis | 4 |
| | Acute appendicitis | 1 |
| | Schistosomal appendicitis | 1 |
| Caecum : | Crohn's disease | 1 |
| | Adenocarcinoma | 1 |
| Colon : | Colitis | 1 |
| Rectum : | Adenocarcinoma | 1 |
| | Papilloma | 1 |
| Anus : | Papilloma | 1 |
| Umbilicus : | Carcinoma | 1 |
| Peritoneum : | Secondary Adenocarcinoma | 2 |
| Gall Bladder : | Adenocarcinoma | 1 |
| Kidney : | Sarcoma | 1 |

PELVIS :—

| | | |
|---|---|---|
| Uterus : | Adenocarcinoma | 1 |
| | Chorioepithelioma | 2 |
| | Inflammation | I |
| | Adenomyoma | 2 |
| Uterine curettings : | Product of abortion | 1 |
| | Hyperplastic endometrium | 5 |
| | Normal endometrium | 5 |
| Cervix : | Normal | 2 |
| | Chronic cervicitis | 4 |
| | Adenocarcinoma | 1 |
| | Squamous carcinoma | 5 |
| | Schistosomal cervicitis | 1 |
| Placenta : | Inflammation | 2 |
| | Normal | 1 |
| Ovary : | Oophoritis | 1 |
| | Dermoid Cyst | 1 |
| | Follicular Cyst | 3 |
| | Corpus luteum haematoma | 1 |
| | Papillary Cystadenoma | 1 |
| | Adenomatous polypus | 1 |
| | Carcinoma | 1 |
| Vulva : | Simple wart | 1 |
| | Condylomata acuminata | 1 |
| | Squamous carcinoma | 2 |
| Prostate : | Diffused carcinoma | 1 |
| Prepuce : | Inflammation | 1 |
| Epididymis : | Epididymitis | 1 |

| | | |
|---|---|---|
| Skin : | Inflammation | 3 |
| | Simple wart | 4 |
| | Electric burn | 1 |
| | Sebaceous cyst | 2 |
| | Abscess | 2 |
| | Papilloma | 2 |
| | Epithelioma | 1 |
| | Epithelial proliferation in scar tissue | 1 |
| | Haemangioma | 2 |
| Lymph Gland : | Chronic adenitis | 15 |
| | Tuberculous adenitis | 5 |
| | Secondary carcinoma | 4 |
| | Reticulosarcoma | 1 |
| Bone :— | | |
| | Osteitis | 1 |
| | Osteoma | 1 |
| | Osteogenic Sarcoma | 1 |
| | Osteoclastoma | 2 |
| | Secondary Adenocarcinoma | 2 |
| | Chronic Osteomyelitis | 4 |
| | Cartilage : Chondrosarcoma | 1 |
| Joints :— | | |
| | Chronic Synovitis | 4 |
| | Tuberculosis synovitis | 2 |
| | Chronic bursitis | 1 |
| | Torn semilunar catilage | 1 |
| Upper Limb :— | | |
| | Shoulder : Fibroma | 1 |
| | Forearm : Haem—endothelioma | 1 |
| | Tuberculosis elbow | 1 |
| | Hand : Ganglion | 2 |
| | Thumb : Fibroma | 1 |
| | Finger : Glomus tumour | 2 |
| | Haematoma | 1 |
| | Hyperkeratinisation of epithelium | 1 |
| Lower Limb :— | | |
| | Acute inflammation of thigh | 1 |
| | Elephantiasis of leg | 1 |
| | Lipoma | 2 |
| | Chronic ulcer of sole | 1 |
| | Amputation stump | 1 |
| Muscle :— | | |
| | Inflammation | 3 |
| | Necrosis of muscle | 1 |
| | Spindle-celled sarcoma | 1 |
| Nerve :— | | |
| | Fibroneuroma | 3 |
| | Sympathetic nerve ganglion | 5 |
| | Spinal cord : Angioma (extradural) | 1 |

Miscellaneous :—

| | |
|---|---|
| Blood clots | 2 |
| Cystic Hygroma | 1 |
| Piece of fat | 1 |
| Thrombosis of vessels | 1 |

Animals :—

| | | |
|---|---|---|
| Sheep | Kidney from case of alkaptonurea | 1 |
| Guinea pig | Hepatitis | 1 |

## III. BACTERIOLOGY

### A. Direct microscopical examinations

1241 microscopical examinations were made

#### (a) *Stools*

| | |
|---|---|
| Total number examined | 3 |
| Direct examination for tubercule bacilli | 3 |

#### (b) *Sputum*

| | |
|---|---|
| Total number examined for mycobacter tuberculosis | 903 |
| Mycobacter tuberculosis (positive) | 106 |

#### (c) *Urine*

| | |
|---|---|
| Total number examined for mycobacter tuberculosis | 54 |
| Mycobacter tuberculosis (positive) | 4 |

#### (d) *Cerebro spinal fluid*

| | |
|---|---|
| Total number examined | 13 |

#### (e) *Throat and nasal swabbings*

| | |
|---|---|
| Total number examined for Corynebact diphtheriae | 81 |
| Corynebact diphtheriae (positive) | 6 |

#### (f) *Pus, discharges, scrapings, etc.*

| | |
|---|---|
| Total number examined | 186 |
| Neisseria gonorrhoeae | 26 |
| Mycobacter tuberculosis | 23 |
| Microfilariae | 2 |

#### (g) *Micology*

| | |
|---|---|
| Hair for Tinea | 1 |

### B. Cultures

3,302 examinations were made

#### (a) *Blood*

| | |
|---|---|
| Total number cultured | 46 |
| B. Coli aerogenes | 1 |
| B. faecalis alkaligenes | 1 |
| B. subtilis | 9 |
| Staphylococci | 18 |
| Diphtheroids | 1 |
| Monilia species | 1 |

### (b) *Faeces*

| | |
|---|---|
| Total number cultured | 191 |
| Salm. typhi | 1 |
| Pseudomonas pyocyanea | 7 |
| B. paracolon | 13 |
| B. paracolon atypical | 2 |
| Morgan's bacillus | 19 |
| B. faecalis alkaligenes | 6 |

### (c) *Urine*

| | |
|---|---|
| Total numbered cultured | 585 |
| B. Coli typical | 26 |
| B. Coli atypical | 56 |
| B. Coli aerogenes | 57 |
| B. Coli anaerogenes | 6 |
| B. paracolon | 27 |
| B. paracolon atypical | 6 |
| B. faecalis alkaligines | 2 |
| Morgans bacillus | 7 |
| Pseudomonas pyocyanea | 2 |
| B. proteus | 5 |
| B. subtilis | 14 |
| Niesseria (diplococcus) | 3 |
| Staphylococcus | 94 |
| Streptococcus | 3 |
| Diphtheroids | 6 |
| Monilia species | 11 |
| Mycobacter tuberculosis | 1 |
| Inoculation to guinea pig for myco tuberculosis | 7 |

### (d) *Sputum*

| | |
|---|---|
| Total number cultured | 15 |
| B. Coli atypical | 1 |
| Pneumococcus | 1 |
| Staphylococcus | 2 |
| Streptococcus | 3 |
| Inoculation to guinea pig for myco tuberculosis | 3 |

### (e) *Cerebro spinal fluid*

| | |
|---|---|
| Total number cultured | 77 |
| B. coli typical | 1 |
| B. coli atypical | 4 |
| B. paracolon | 1 |
| B. proteus | 1 |
| B. subtilis | 18 |
| Pneumococcus | 3 |
| Streptococcus viridans | 2 |
| Staphylococcus | 5 |
| Diphtheroids | 1 |
| Monilia species | 1 |
| Inoculation to guinea pic for mycobacter tuberculosis | 3 |

(f) *Throat and nasal swabbings*

| | |
|---|---|
| Total number cultured ... ... | 1,254 |
| Corynebact diphtheriæ ... ... | 86 |
| B. subtilis ... ... ... ... | 3 |
| Pneumococcus ... ... ... | 1 |
| Neisseria species ... ... ... | 17 |
| Streptococcus viridans ... ... | 41 |
| Streptococcus hæmolyticus ... .. | 11 |
| Streptococcus non hæmolyticus ... | 23 |
| Staphylococcus albus ... ... | 62 |
| Staphylococcus aureus .. ... | 12 |
| Diphtheroids ... ... ... | 49 |
| Monilia species ... ... ... | 108 |
| Inoculation to guinea pig for mycobacter tuberculosis ... ... ... | 3 |

(g) *Pus, discharges, scrapings, etc.*

| | |
|---|---|
| Total number cultured ... ... | 1,128 |
| B. coli typical ... ... ... | 1 |
| B. coli atypical ... ... ... | 8 |
| B. coli ærogenes ... ... ... | 6 |
| B. friedlanderi ... ... ... | 1 |
| B. paracolon ... ... ... | 4 |
| Morgans bacillus ... ... ... | 5 |
| Pseudomonas pyocyanea ... ... | 1 |
| Morax–Axenfeldt bacillus ... ... | 11 |
| B. proteus ... ... ... ... | 3 |
| B. subtilis ... ... ... ... | 33 |
| Neisseria species ... ... ... | 8 |
| Pneumococcus ... ... ... | 4 |
| Streptococcus viridans ... ... | 3 |
| Other streptococci ... ... ... | 11 |
| Staphylococcus aureus ... ... | 12 |
| Staphylococcus citreus ... ... | 3 |
| Staphylococcus albus ... ... | 646 |
| Diphtheroids ... ... ... | 156 |
| Monilia species ... ... ... | 10 |
| Inoculation to guinea pig for mycobacter tuberculosis ... ... ... | 13 |

(h) *Miscellaneous*

| | |
|---|---|
| Total number cultured ... ... | 6 |
| Ice cream ... ... ... ... | 4 |
| Material to test efficiency of autoclave ... | 1 |
| Swab from autoclave... ... ... | 1 |

### C. AUTOGENOUS VACCINES WERE PREPARED FROM THE FOLLOWING ORGANISMS, ISOLATED, AMONG OTHERS, FROM VARIOUS SAMPLES, 18 IN ALL

(a) *Urine*

| | |
|---|---|
| B. Coli typical ... ... ... | 3 |
| B. Coli atypical ... ... ... | 2 |
| Staphylococcus albus ... ... | 1 |

(b) *Throat and nasal swabbings*

| | |
|---|---|
| Streptococcus viridans ... ... | 1 |
| Staphylococcus albus ... ... | 1 |

(c) *Pus, discharges and scrapings, etc.*

| | |
|---|---|
| B. Coli atypical ... ... ... | 2 |
| Staphylococcus albus ... ... | 3 |
| Staphylococcus citreus ... ... | 1 |
| Staphylococcus aureus ... ... | 3 |

### D. AGGLUTINATION TESTS

| | |
|---|---|
| Significant agglutinins for Bact, Typhosum "H" Antigen ... ... ... | 442 |
| Significant agglutinins for Bact, Typhosum "O" Antigen ... ... ... | 378 |
| Significant agglutinins for Bact, Typhosum "$V_i$" Antigen ... ... ... | 13 |
| Significant agglutinins for Para Typhi A "H" | 5 |
| ,, ,, A "O" | 4 |
| ,, ,, B "H" | 6 |
| ,, ,, B "O" | 3 |
| ,, Proteus O X K ... | 1 |
| ,, Proteus O $X_2$ ... | 1 |
| ,, Brucella Abortus ... | 2 |
| ,, Unsuitable for test | 18 |
| Total number of sera submitted for agglutination tests ... ... | 957 |

| | |
|---|---|
| E. WATER ANALYSES ... ... ... | 413 |
| F. MILK ANALYSES ... ... ... | 14 |

## IV. HAEMATOLOGY

### ROUTINE BLOOD EXAMINATIONS

| | |
|---|---|
| Total number examined ... ... | 2,886 |
| Full counts of red and white cells and haemoglobin determinations ... | 754 |
| Differential leucocyte counts ... | 486 |
| Blood grouping (A, B, O) ... ... | 1,332 |
| R.H. factor (Neg. 4 ; Pos. 7) ... ... | 11 |
| Clotting and bleeding times ... ... | 40 |
| Blood sedimentation rate ... ... | 257 |
| Blood platelets ... ... ... | 6 |

## V. SEROLOGY

### (a) *Blood*

Kahn tests—

| | |
|---|---|
| Negative ... ... ... | 10,719 |
| Doubtful reactions ... ... | 655 |
| + ... .. ... | 457 |
| ++ ... ... .. | 444 |
| +++ ... ... ... | 604 |
| ++++ ... ... ... | 198 |
| Unsuitable for test ... ... ... | 377 |
| | 13,454 |

### (b) *Cerebro Spinal fluid*

| | |
|---|---|
| Negative ... ... ... ... | 36 |
| Doubtful reactions ... ... ... | 4 |
| + ... ... ... ... | 1 |
| ++++ ... ... ... ... | 1 |
| Unsuitable for test ... ... ... | 3 |
| | 45 |

### (c) *Blood*

| | |
|---|---|
| Paul Bunnell's test ... ... ... | 7 |

## VI. VETERINARY

### Faeces (Microscopical)

| | |
|---|---|
| Total number examined ... ... | 18 |
| Strongylus ... ... ... | 15 |
| Ascaris ... ... ... ... | 2 |

### Agglutination tests

| | |
|---|---|
| Significant agglutinins for Brucella Abortus ... ... ... | 204 |
| Unsuitable for test ... ... ... | 1 |
| Total number of sera submitted for agglutination test ... ... | 372 |

## VII. LABORATORY PRODUCTS

Autogenous vaccines were prepared during the year 1952; details of which will be found under the Bacteriological section

| | |
|---|---|
| T.A.B. vaccine prophylaxis .. ... | 4 litres |
| T.A.B. vaccine protein shock ... ... | 600 cc |

## VIII. SURVEY

### (a) *Schistosoma Haematobium in urine (school children)*

| | |
|---|---|
| Total number examined ... ... | 4,408 |
| Number of positive ... ... ... | 283 |

# Annexure I

## Work done at the Victoria Hospital Branch Laboratory

| | |
|---|---|
| Total number examined | 9,458 |

### I. MEDICAL BIOLOGY

4,884 simple routine examinations were made

#### (a) *Blood* (microscopical)

| | |
|---|---|
| Total number examined | 104 |
| Films for malaria parasites :— | |
| Undetermined rings | 1 |
| No parasites found | 50 |
| Films for microfilariæ :— | |
| Wuchereria bancrofti | 1 |
| No microfilariae | 52 |

#### (b) *Faeces* (micro scopical)

| | |
|---|---|
| Total number examined | 3,039 |
| Helminths :— | |
| Enterobius vermicularis ova | 6 |
| Heterodera marioni | 1 |
| Strongyloides larvae | 10 |
| Trichostrongyle ova | 25 |
| Trichuris ova | 1,420 |
| Ascaris ova | 1,164 |
| " Hookworm " | 1,450 |
| Protozoa :— | |
| Entamoeba histolytica | 7 |
| Entamoeba coli | 48 |
| Vegetative and precystic amoeba | 39 |
| Chilomastix mesnili | 33 |
| Giardia intestinalis | 90 |
| Trichomonas intestinalis | 46 |
| Endolimax nana | 75 |
| Flagellate cercomonas | 1 |
| Blastocystis hominis | 501 |
| No helminths, no protozoa | 382 |

#### (c) *Urine* (microscopical)

| | |
|---|---|
| Total number examined | 1,741 |
| Hyaline casts | 66 |
| Granular casts | 73 |
| Waxy casts | 4 |
| Leucocytic casts | 22 |
| Cellular casts | 35 |
| Red blood cells casts | 2 |
| Schistosoma haematobium | 64 |
| Trichomonas vaginalis | 124 |

Annexure I—*continued*

## II. BACTERIOLOGY

872 microscopical examinations were made.

### (a) *Faeces* (microscopical)

| | |
|---|---|
| Total number examined ... ... | 1 |
| Mycobacter tuberculosis ... ... | 1 |

### (b) *Urine* (microscopical)

| | |
|---|---|
| Total number examined ... ... | 3 |
| Mycobacter tuberculosis ... ... | 2 |

### (c) *Sputum* (microscopical)

| | |
|---|---|
| Total number examined ... ... | 749 |
| Mycobacter tuberculosis ... ... | 177 |

### (d) *Cerebro spinal fluid*

| | |
|---|---|
| Total number examined ... ... | 1 |

### (e) *Throat and nasal swabbings* (microscopical)

| | |
|---|---|
| Total number examined ... ... | 25 |
| Corynebact diphtheriae ... ... | 2 |

### (f) *Pus, discharges and scrapings* (microscopical)

| | |
|---|---|
| Total number examined ... ... | 93 |
| Neisseria gonorrhoeae ... ... | 8 |

## III. HAEMATOLOGY

| | |
|---|---|
| Total counts of red and white cells and haemoglobin determinations ... | 1,839 |
| Differential leucocyte counts ... | 292 |
| Blood grouping ... ... ... | 527 |
| Blood sedimentation rate... ... | 142 |
| Coagulation and bleeding times ... | 11 |
| Blood platelets ... ... ... | 3 |
| Reticulocytes counts ... ... | 5 |
| Total number examined ... ... | 2,819 |

## IV. BIOCHEMICAL

### (a) *Faeces*

| | |
|---|---|
| Test for occult blood ... ... | 1 |

### (b) *Urine*

| | |
|---|---|
| Total number examined ... ... | 882 |
| Quantitative estimations of glucose... | 5 |
| Quantitative estimations of albumen | 4 |
| Qualitative tests for determination of bile ... ... ... | 27 |
| Qualitative tests for determination of acetone ... ... ... | 59 |

## Annexure II

### Work done at the Civil Hospital Branch Laboratory

| | |
|---|---|
| Total number examined ... ... | 10,277 |

### I. MEDICAL BIOLOGY

4,153 simple routine examinations were made.

#### (a) *Blood* (microscopical)

| | |
|---|---|
| Total number examined ... ... | 153 |
| Films for malaria parasites :— | |
| Undetermined rings ... ... | 2 |
| No parasites found ... ... | 83 |
| Films for microfilariae :— | |
| Wuchereria bancrofti ... ... | 9 |
| No microfilariae ... ... | 59 |

#### (b) *Faeces* (microscopical)

| | |
|---|---|
| Total number examined ... ... | 2,345 |
| Helminths :— | |
| Enterobius vermicularis ova ... | 4 |
| Strongyloides larvae ... ... | 13 |
| Trichostrongyle ova ... ... | 5 |
| Trichuris ova ... ... ... | 406 |
| Ascaris ova ... ... ... | 593 |
| Hookworm ova ... ... ... | 649 |
| Protozoa :— | |
| Entamoeba histolytica ... ... | 15 |
| Entamoeba coli ... ... ... | 50 |
| Endolimax nana ... ... | 4 |
| Chilomastix mesnili ... ... | 105 |
| Giardia intestinalis ... ... | 95 |
| Trichomonas intestinalis ... ... | 20 |
| Blastocystis hominis ... ... | 151 |
| No helminths, no protozoa ... | 849 |

#### (c) *Urine* (microscopical)

| | |
|---|---|
| Total number examined ... ... | 1,668 |
| Hyaline casts ... ... ... | 205 |
| Granular casts ... ... ... | 168 |
| Waxy casts ... ... ... | 10 |
| Leucocytic casts ... ... | 23 |
| Cellular casts ... ... ... | 21 |
| Schistosoma haematobium ova ... | 274 |
| Trichomonas vaginalis ... ... | 64 |
| Microfilariae ... ... ... | 2 |
| Fungus ... ... ... | 11 |

ANNEXURE II—*continued*

## II. BACTERIOLOGY

1,729 microscopical examinations were made.

(a) *Sputum* (microscopical)

| | |
|---|---|
| Total number examined ... ... | 1,440 |
| Mycobacter tuberculosis ... ... | 338 |

(b) *Cerebro spinal fluid*

| | |
|---|---|
| Total number examined ... ... | 1 |

(c) *Throat and nasal swabbings* (microscopical)

| | |
|---|---|
| Total number examined ... ... | 62 |
| Corynebact diphtheriæ ... ... | 1 |
| Diphtheroids ... ... ... | 1 |

(d) *Pus, discharges, scrapings, etc.* (microscopical)

| | |
|---|---|
| Total number examined ... ... | 226 |
| Neisseria gonorrhaeoe ... ... | 54 |

## III. HAEMATOLOGY

| | |
|---|---|
| Total counts of red and white cells and haemoglobin determinations ... | 1,008 |
| Differential leucocyte counts ... | 212 |
| Blood grouping ... ... ... | 307 |
| Blood sedimentation rate... ... | 146 |
| Coagulation and bleeding times ... | 2 |
| Total number examined ... ... | 1,675 |

## IV. BIOCHEMICAL

(a) *Faeces*

| | |
|---|---|
| Test for occult blood ... ... | 1 |

(b) *Urine*

| | |
|---|---|
| Total number examined ... ... | 2,706 |
| Quantitative estimations of glucose... | 46 |
| Quantitative estimations of albumen... . | 131 |
| Qualitative tests for determination of bile ... ... ... | 55 |
| Qualitative tests for determination of acetone ... ... ... | 62 |
| Specific gravity ... ... ... | 15 |

## Annexure III

## Work done by the Chemical Section of the Central Laboratory

### STAFF

Mr. A. J. Radford was appointed Government Chemist on 1st November, 1952, and arrived in the Colony on 5th December, 1952. Mr. R. Rivalland continued to act as Government Chemist and Mr. Hervel as Assistant Government Chemist until his arrival.

It was again only possible to carry out routine analyses during the year but it is hoped that it will now be possible to carry out non-routine determinations and give some time to research work.

The Acting Government Chemist was reappointed member of the Liquor Licensing Board until the arrival of the Government Chemist, who was then appointed.

The supervision of the Customs Laboratory was continued throughout the year.

During the year 5,986 samples were received involving 10,215 determinations. Comparison with the two previous years is :—

| *Year* | *No. of exhibits received* | *No. of determinations* |
|---|---|---|
| 1950 | 4,503 | 7,156 |
| 1951 | 5,733 | 10,443 |
| 1952 | 5,986 | 10,215 |

The tables below show the details of the number of exhibits received and determinations made during the year 1952.

### 1. General Chemical Analyses

| | *No. of exhibits received* | *No. of determinations* |
|---|---|---|
| Gandia | 124 | 124 |
| Opium | 52 | 156 |
| Rum (police cases) | 115 | 249 |
| Wash | 3 | 4 |
| Wine | 15 | 39 |
| Motor Spirit | 8 | 8 |
| Tissues | 40 | 43 |
| Bread | 121 | 121 |
| Oil (edible) | 17 | 34 |
| Waters | 53 | 201 |
| Chinese Drugs | 1 | 1 |
| Milk | 589 | 3,094 |
| Dried Milk | 6 | 17 |
| Rum (from Warehouse) | 203 | 203 |
| Power alcohol | 97 | 97 |
| Pharmaceutical Drugs | 87 | 87 |
| Stomach contents | 2 | 7 |
| Tea | 12 | 24 |
| Food stuffs | 14 | 49 |
| Gas tests (in drum) | 254 | 254 |
| Poisoning cases (humans) | 3 | 7 |
| Poisoning cases (animals) | 15 | 22 |
| Miscellaneous | 9 | 19 |
| Total | 1,840 | 4,860 |

ANNEXURE III—*continued*

There has been no improvement in the adulteration of milk supplies and the addition of cane sugar to the milk, in order to maintain the specific gravity, has become more prevalent. Comparison of the percentage adulteration with the previous year is given in the table below :—

| | *1951* | *1952* |
|---|---|---|
| Complying with Government Regulations | 24 | 19 |
| Containing less than 5 per cent added water | 16 | 15 |
| Containing more than 5 per cent added water | 56 | 62 |
| Deprived of fat | 22 | 23 |
| Added sugar | 9 | 26 |

In many cases the samples analysed did not comply with the regulations in more than one respect.

Again, at the request of the Director of Public Works Department, analyses of waters from Piton du Milieu, La Nicolière and La Marie were carried out in addition to the monthly examinations of the waters from La Marie and Pailles.

Analyses of imported edible oils were again done on each consignment, the reduction in the number of samples being due to testing of one bulk sample in place of several samples from each consignment.

The survey of the moisture content of bread supplies of the Colony was continued throughout the year at the request of the Controller of Supplies.

The miscellaneous samples consisted of three each of coal tars and fertilizers, two Palma oils and one each of explosive, cement, asphalt, sodium bicarbonate, boiler scale and vanillin.

## BIO-CHEMISTRY

### (*a*) *Urine*

| | *No. of exhibits received* | *No. of determinations* |
|---|---|---|
| Albumen—qualitative | — | 967 |
| Albumen—quantitative | — | 32 |
| Glucose—qualitative | — | 935 |
| Glucose—quantitative | — | 118 |
| Acetone | — | 27 |
| Bile pigments | — | 20 |
| Bile salts | — | 5 |
| Reaction | — | 9 |
| Specific Gravity | — | 5 |
| Urobilin | ... | 6 |
| Chlorides | — | 6 |
| Urea | — | 4 |
| Diastase | — | 2 |
| Alcohol | — | 1 |
| Barbiturates | — | 1 |
| Calculus | — | 2 |
| TOTAL | 1,148 | 2,140 |

ANNEXURE III—*continued*

### (*b*) *Blood*

| | *No. of exhibits received* | *No. of determinations* |
|---|---|---|
| Urea ... ... ... ... | — | 1,418 |
| Glucose ... .. ... ... | — | 1,382 |
| Chlorides ... ... ... ... | — | 22 |
| Proteins ... ... ... ... | — | 17 |
| Globulin ... ... ... ... | — | 2 |
| Uric acid ... ... ... ... | — | 4 |
| Cholesterol ... ... ... | — | 4 |
| Alcohol ... ... ... ... | — | 35 |
| Calcium ... ... ... ... | — | 7 |
| Phosphorus ... ... ... | — | 3 |
| Van Den Bergh Reaction ... | — | 14 |
| Diastase ... ... ... ... | — | 2 |
| Icterus Index ... ... ... | — | 1 |
| TOTAL ... ... | 2,907 | 2,909 |

### (*c*) *Cerebro Spinal Fluid*

| | | |
|---|---|---|
| Proteins ... ... ... ... | — | 15 |
| Chlorides ... ... ... ... | — | 42 |
| Glucose ... ... ... ... | — | 33 |
| Barbiturate ... ... ... | — | 1 |
| TOTAL ... ... | 57 | 126 |

### (*d*) *Faeces*

| | | |
|---|---|---|
| Occult blood ... ... ... | 12 | 12 |

### (*e*) *Stomach content*

| | | |
|---|---|---|
| | 10 | 100 |

### (*f*) *Ascitic fluid*

| | | |
|---|---|---|
| Protein ... ... ... ... | — | 3 |
| Urea ... ... ... ... | — | 2 |
| Bile ... ... ... ... ... | — | 1 |
| TOTAL ... ... | 4 | 6 |

### (*g*) *Fractional Test Meal*

| | | |
|---|---|---|
| | 6 | 60 |

### (*h*) *Pleural Fluid*

| | | |
|---|---|---|
| Protein ... ... ... ... | 1 | 1 |

### (*i*) *Peritoneal Fluid*

| | | |
|---|---|---|
| Protein ... ... ... ... | 1 | 1 |
| GRAND TOTAL ... ... | 4,146 | 5,355 |

# APPENDIX II

## Report on the Work done on Schistosomiasis in the Central Health Laboratory, Reduit in 1951 and 1952

This report continues the 1951 report already published and covers the two year period from January 1951 to December 1952, but for the sake of completeness the last five schools visited early in 1953 are included. The work comprised further experiments on the transmission of the local strain of S. *haematobium* through the vector mollusc and the continuance of the general survey of the disease throughout the island and, particularly, in the schools.

### Part I—Experience with local molluscs

All experiments which snails other than *Bulinus* (*Pyrgophysa forskali* Erhenberg) have been uniformly negative though *Limnea Mauritiania* may show attraction for miracidia. The local strain of *S. haematobium* has now been successfully passaged through the first named mollusc, hereafter referred to simply as *B. forskali*. In several experiments cercariae were obtained, both freely shed and found alive in crush preparations, after an incubation period of 30–35 days. Mice were exposed to a known number of cercariae by the method of semi-immersion "Paddling" and at autopsy, from two to three months later, adult worms showing the typical morphology of *S. heamotobium* were recovered from the liver and mesenteries. Sections of the mouse liver also showed both worms and ova. The methods used have been described in detail by the writer (Azim and Cowper 1950). As far as laboratory evidence goes this confirms the work of Adams (1934–35), who was the first to transmit the parasite through this snail and who considered *B. forskali* the natural and only vector in Mauritius.

The epidemiological picture is rather less conclusive.

In the course of this work *B. forskali* has only been found in the following localities : Carreau Acacias, Rose Hill and a number of localities between Port Louis and Pamplemousses including Vallee des Pretres, and Père Laval (Ste Croix). Only in Carreau Acacias is it really numerous. No natural wild infections of *B. forskali* have been found and in certain areas (e.g. Argy) where the incidence of Schistosomiasis is high, this snail has not been found at all in spite of thorough search. There seems to be no doubt that the numbers of *B. forskali* have declined considerably since the time when Adam's work was done here, yet the incidence of infection remains both locally high and widely distributed. It has been suggested that this reduction of numbers may be associated with the innundations due to the 1945 cyclone and the drainage work carried out by the Malaria Division.

Through the courtesy of M. Vinson, the writer was enabled to present a paper on the above subject to the Royal Society of Arts and Sciences of Mauritius in November 1952. It is hoped that this paper, incorporating a description and figures of the snail, will appear in due course in the Proceedings of this Society. It is desirable that further attention should be directed to the bionomics and distribution of *B. forskali*, to the question of what happens to this snail in the dry season, and to the search for natural wild infection. The evidence at present may be summarised as follows :—

### A. Evidence in favour of B. forskali as the only natural vector

1. The local strain of *S. haematobium* has been successfully passed through this snail several times and adult worms obtained in mice.

2. All experiments with other snails were negative through *Limnea Mauritiana* may show attraction for miracidia.

3. This confirms the previous experimental works of Adams.

4. The common African vectors, *B. truncatus* and *Physopsis Globosa* do not occur in Mauritius.

### B. Evidence in favour of a possible second vector snail

1. No natural wild infection has been discovered in *B. forskali.*

2. *B. forskali* has declined in numbers, its distribution is now local and it is nowhere very abundant.

3. In spite of (2) above there does not appear to be any diminution in the incidence of the disease.

4. In certain areas where the incidence is high, *B. forskali* has not yet been found (e.g. Argy).

As it is contrary to general experience to find more than one mollusc acting as a vector in one area, and improbable that a local snail should be a successful laboratory vector but not transmit in nature, the deduction would seem to be that *B. forskali* is the probable local carrier of Schistosomiasis and in any envisaged control measures should be regarded as the presumptive carrier ; but the possibility of a second carrier cannot be absolutely ruled out pending further investigation.

## Part II—A. General Survey of Schistosomiasis in Mauritius

All cases of positive urines received in the laboratories of Reduit ; Civil Hospital, Port Louis and Victoria Hospital, Quatre Bornes, have been recorded together with the sex, age and domicile (or hospital) of the patient, when this information was supplied.

Table I shows the aggregate figures recorded during the enquiry between January 1951 and 31st December 1952 :—

### TABLE I

Total number of cases recorded in three laboratories between 1st January 1951 and 31st December, 1952.

| | |
|---|---|
| Reduit ... .. ... ... ... ... | 222 |
| Civil Hospital ... ... ... ... ... | 574 |
| Victoria Hospital ... ... ... ... ... | 136 |
| TOTAL ... ... | 932 |

| | |
|---|---|
| Total No. of males infected ... ... ... | 581 |
| Total No. of females infected ... ... ... | 240 |
| Sex unrecorded ... ... ... ... ... | 111 |
| TOTAL ... ... | 932 |

Sex ratio 581 ♂♂ to 240 ♀♀ = 2.42 : 1·0 out of 821 cases where sex was recorded.

| | | | | |
|---|---|---|---|---|
| Total in all groups | 0— 5 years ... ... | 21 | (3·2 %) | |
| ,, | 6—15 years ... ... | 277 | (42·7 %) | |
| ,, | 16—25 years ... ... | 241 | (37·2 %) | |
| ,, | 25—25+years ... ... | 110 | (16·9 %) | |
| | | 649 | | 932 |
| Age unrecorded | ... ... | 283 | | |

Table II lists the localities from which 745 of the recorded cases came. It is recognised that this gives only an approximate distribution estimate since a patient was not necessarily infected in his own home town.

## TABLE II

### DISTRIBUTION OF SCHISTOSOMIASIS IN MAURITIUS

Between 1st January 1951 and 31st December 1952 cases were recorded in the three laboratories from the following localities :—

| *Locality* | *No.* | *Locality* | *No.* |
|---|---|---|---|
| Argy | 30 | New Grove | 1 |
| Beau Séjour | 10 | Pamplemousses | 13 |
| Beau Plan | 4 | Port-Louis | 382 |
| Beau-Bassin | 19 | Poudre D'Or | 11 |
| Beau Champ | 1 | Phoenix | 8 |
| Bambous | 4 | Petite Rivière | 2 |
| Belle Rose | 5 | Piton | 2 |
| Bel Ombre | 1 | Quatre-Bornes | 22 |
| Bon Espoir | 2 | Plaine Magnien | 3 |
| Carreau Acacias | 19 | Rose-Hill | 35 |
| Carreau Esnouf | 1 | Réduit | 4 |
| Cassis | 1 | Rivière du Rempart | 6 |
| Clarens | 2 | Roches Noires | 1 |
| Camp de Masque | 1 | Roches Bois | 9 |
| Curepipe | 1 | Surinam | 1 |
| Eau Coulée | 2 | Sainte Croix | 6 |
| Flacq | 17 | Sauveterre | 5 |
| Floréal | 7 | Saint André | 2 |
| Fond du Sac | 3 | Saint Hubert | 1 |
| Forest Side | 1 | Saint Pierre | 1 |
| Grand River North West | 3 | Souillac | 2 |
| Long Mountain | 15 | Terre Rouge | 3 |
| Le Vallon | 1 | Triolet | 3 |
| Labourdonnais | 1 | Trois Boutiques | 1 |
| Mahebourg | 19 | Union Vale | 7 |
| Mapou | 14 | Vacoas | 13 |
| Martindale | 1 | Vallée Pitot | 1 |
| Mon Désert, Mon Tresor | 1 | Vieux Grand-Port | 1 |
| Moka | 6 | Vallée des Prêtres | 4 |
| Montagne Blanche | 2 | Yoloff Camp | 1 |
| | | | 745 |

In addition numerous cases were recorded from :—

(*a*) Beau Bassin Prison, Mental Hospital and Industrial School.

(*b*) Carreau Acacias by Mobile Dispensary.

(*c*) In the following schools not in the above list, schistosomiasis was also found :—

1. Rivière des Anguilles
2. Chemin Grenier
3. Escalier
4. Case Noyale
5. Trou D'Eau Douce
6. Mare D'Albert
7. Plaine des Papayes

The Map shows the distribution of the disease estimated from the above and from the results of the School Survey (see below).

## B. School Survey

Fifty schools were visited, ten in the Port Louis district and forty elsewhere. The general methods of survey employed are described in the Annual Report for 1951 (p. 109).

Schistosomiasis was recorded in forty out of fifty schools. In 15 schools infection rates above 10% (random sample of about 150 children) were recorded.

In six of these the infection rate was above 25% and below 50% and in the two above 50%. The highest figures recorded were at Père Laval School 63%, and Queen Victoria, Argy 58% (figures to nearest integer).

Table III gives details of the findings in these schools. The first ten schools are those in Port Louis, the remainder are recorded in the order visited.

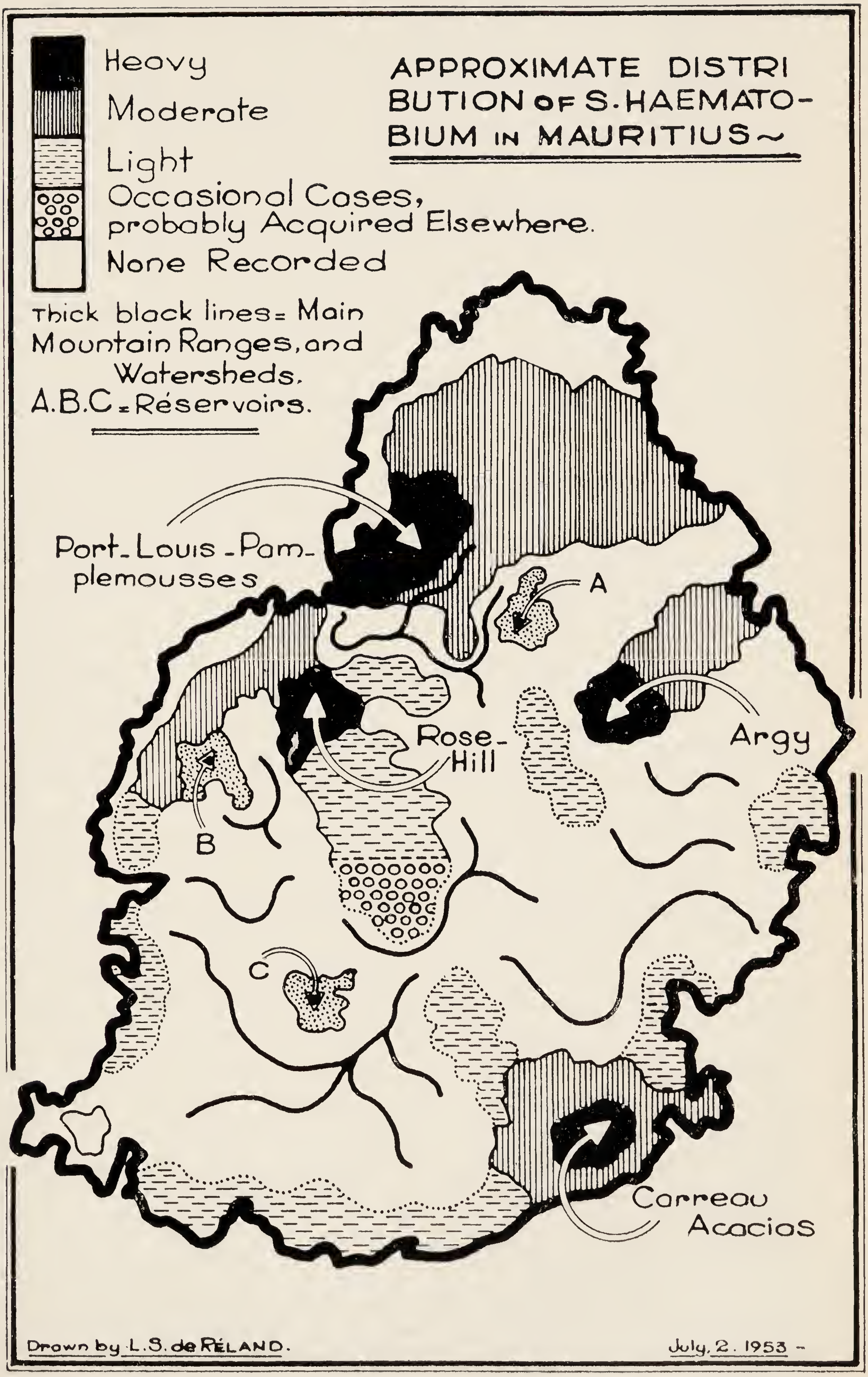
*B. forskali* has been found near the schools of Pamplemousses, Terre Rouge, Vallée de Prêtres, Père Laval, Rose Hill Government and Trois Boutiques.

The figures from the school survey may be summarised as follows :—

| | | |
|---|---|---|
| No. of schools visited ... ... ... | 50 | |
| No. of children on school roles (i.e. Child population sampled) ... ... | 22,948 | |
| No. of children examined ... ... ... | 7,318 | (32% of above) |
| No. of boys examined ... ... ... | 4,168 | |
| No. of girls examined ... ... ... | 3,150 | |
| No. of positive urines ... ... ... | 666 | |
| Percentage positive urines... ... ... | 9.2% | |
| No. of positive males ... ... ... | 437 | Ratio of males to females 1.9 to 1 |
| No. of positive females ... ... ... | 229 | |
| No. of positives in age group ... ... | 0— 5 years | = 29 (4%) |
| ,, | 6—10 ,, | = 326 (49%) |
| ,, | 11—15 ,, | = 291 (44%) |
| ,, | over—15 ,, | = 20 (3%) |

15 years is the normal leaving age.

An experiment in the treatment of children at Queen Victoria School, Argy with Nilodin is also described in the report for 1951 (p. 112), as is also an experiment with the Rhodesian cercarial antigen skin test. The use of the latter was abandoned as it was found unreliable after trial.


APPROXIMATE DISTRIBUTION OF S. HAEMATOBIUM IN MAURITIUS ~
Heavy
Moderate
Light
Occasional Cases, probably Acquired Elsewhere.
None Recorded
Thick black lines = Main Mountain Ranges, and Watersheds.
A.B.C = Réservoirs.
Port-Louis - Pamplemousses
A
Rose-Hill
Argy
B
C
Carreau Acacias
Drawn by L.S. de RÉLAND.
July, 2. 1953 -

## TABLE III

### RESULTS EXAMINATIONS IN FIFTY SCHOOLS IN MAURITIUS

| *No.* | *Name of School* | *Total No. in School* | *Number examined* | *No. of + ve Urines* | *% age + ve urines* | *No. of + ve males* | *No. of + ve females* | *Approx. ratio ♂ : ♀* | *Age group 0—5* | *Age group 6—10* | *Age group 11—15* | *Remarks* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Central Boys, Port Louis ... ... | 608 | 150 | 19 | 12·7 | 19 | 0 | — | 0 | 2 | 17 | |
| 2 | Sacré Coeur de Jésus, Port Louis | 1,300 | 150 | 22 | 14·7 | 17 | 5 | 3· 5 : 1 | 0 | 6 | 14 | + 2 over 15 years |
| 3 | Central Girls, Port Louis ... | 400 | 141 | 1 | 0·7 | 0 | 1 | — | 0 | 1 | 0 | |
| 4 | Nicolay Road Port Louis ... ... | 736 | 154 | 40 | 26·0 | 25 | 15 | 5 : 3 | 0 | 8 | 32 | |
| 5 | Loretto Convent, Port Louis ... | 530 | 144 | 3 | 2·1 | 0 | 3 | — | 0 | 1 | 2 | |
| 6 | Eastern Suburb Port Louis ... | 250 | 153 | 42 | 27·4 | 29 | 13 | 2 : 1 | 1 | 21 | 20 | |
| 7 | Western Suburb, Port Louis ... | 746 | 151 | 2 | 1·2 | 1 | 1 | 1 : 1 | 0 | 2 | 0 | |
| 8 | De la Salle, Port Louis ... ... | 664 | 150 | 17 | 11·3 | 17 | 0 | — | 0 | 0 | 16 | |
| 9 | Père Laval Port Louis ... ... | 346 | 153 | 96 | 62·8 | 51 | 45 | 1· 1 : 1 | 1 | 58 | 37 | *B. forskalli* + + near school |
| 10 | Bon Secours, Port Louis ... ... | 578 | 150 | 6 | 4·0 | 5 | 1 | 5 : 1 | 1 | 3 | 2 | |
| 11 | Queen Victoria S. E. Argy ... | 198 | 134 | 78 | 58·2 | 60 | 18 | 10 : 3 | 11 | 55 | 12 | |
| 12 | Camp de Masque Government ... | 276 | 205 | 6 | 2·9 | 1 | 5 | 1 : 5 | 0 | 5 | 1 | |
| 13 | Moka Government ... ... ... | 348 | 301 | 7 | 2·3 | 3 | 4 | 3 : 4 | 0 | 3 | 4 | |
| 14 | Vallée des Prêtres ... ... ... | 106 | 76 | 29 | 38·2 | 22 | 7 | 3 : 1 | 1 | 20 | 8 | + 1 over 15 *B. forskalli* ++ near school |
| 15 | Arsenal Terre Rouge ... ... | 144 | 108 | 12 | 11·1 | 9 | 3 | 3 : 1 | 2 | 7 | 3 | *B. forskalli* + near school |
| 16 | Rose Hill Government ... ... | 918 | 149 | 7 | 4·7 | 4 | 3 | 4 : 3 | 1 | 3 | 3 | *B. forskalli* + near school |
| 17 | Rivière des Anguilles Government | 774 | 149 | 3 | 2·0 | 0 | 3 | — | 0 | 3 | 0 | |
| 18 | Mahebourg Government Boys ... | 306 | 150 | 2 | 1·3 | 2 | 0 | — | 0 | 1 | 1 | |
| 19 | Trois Boutiques ... ... ... | 229 | 149 | 67 | 44·9 | 37 | 30 | 4 : 3 | 3 | 42 | 22 | *B. forskalli* + near school |
| 20 | Escalier Government ... ... | 543 | 150 | 2 | 1·3 | 2 | 0 | 2 : 0 | 0 | 1 | 1 | |
| 21 | Chemin Grenier Government ... | 655 | 145 | 3 | 2·1 | 1 | 2 | 1 : 2 | 1 | 0 | 2 | |
| 22 | Pamplemousses Government ... | 432 | 155 | 26 | 16·8 | 11 | 15 | 2 : 3 | 1 | 9 | 14 | + 2 over 15 yrs *B. forskalli* + near school |
| 23 | Poudre d'Or Government ... | 603 | 152 | 18 | 11·8 | 12 | 6 | 2 : 1 | 0 | 5 | 13 | |
| 24 | Rivière du Rempart ... ... | 715 | 147 | 3 | 2·0 | 0 | 3 | — | 0 | 2 | 1 | |
| 25 | St. Antoine, Goodlands ... ... | 312 | 152 | 0 | 0·0 | 0 | 0 | — | 0 | 0 | 0 | |
| 26 | Belle Rose Govt. Quatre Bornes ... | 480 | 150 | 2 | 1·3 | 0 | 2 | — | 0 | 2 | 0 | |
| 27 | Grand River Nord West ... ... | 151 | 137 | 11 | 8·0 | 7 | 4 | 7 : 4 | 2 | 7 | 2 | |
| 28 | Central Flacq ... ... ... | 545 | 153 | 9 | 5·8 | 8 | 1 | 8 : 1 | 0 | 4 | 5 | |

## TABLE III—*continued*

| No. | *Name of School* | *Total No. in school* | *Number examined* | *No. of +ve urines* | *%age +ve urines* | *No. of +ve males* | *No. of +ve females* | *Approx. ratio ♂ : ♀* | *Age group 0–5* | *Age group 6–10* | *Age group 11–15* | *Remarks* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | Case Noyale ... ... ... | 152 | 123 | 5 | 4·1 | 2 | 3 | 2 : 3 | 1 | 1 | 3 | |
| 30 | Bambous Government ... ... | 234 | 153 | 45 | 29·4 | 22 | 23 | 1 : 1 | 2 | 37 | 6 | |
| 31 | St. Benoit, Tamarin ... ... | 55 | 45 | 0 | 0·0 | 0 | 0 | — | 0 | 0 | 0 | |
| 32 | Poste de Flacq R.C. ... ... | 148 | 110 | 1 | 0·9 | 1 | 0 | — | 0 | 1 | 0 | |
| 33 | Industrial School *, Beau Bassin ... | 142 | 142 | 39 | 27·4 | 39 | 0 | — | 0 | 0 | 24 | + 15 over 15 years. |
| 34 | Crève Coeur, Long Mountain ... | 249 | 147 | 7 | 4·6 | 5 | 2 | 5 : 2 | 1 | 2 | 4 | |
| 35 | Trou D'Eau Douce ... ... | 304 | 146 | 1 | 0·7 | 1 | 0 | — | 0 | 0 | 1 | |
| 36 | Beau-Bassin Boys' Govt. ... ... | 427 | 154 | 3 | 1·9 | 3 | 0 | — | 0 | 2 | 1 | |
| 37 | Quatre Bornes Govt. ... ... | 1,310 | 153 | 0 | 0·0 | 0 | 0 | — | 0 | 0 | 0 | |
| 38 | Phoenix R.C. ... ... ... | 525 | 152 | 6 | 3·9 | 5 | 1 | 5 : 1 | 0 | 2 | 4 | |
| 39 | Aryan Vedic, Vacoas ... ... | 1,381 | 152 | 2 | 1·3 | 2 | 0 | — | 0 | 0 | 2 | |
| 40 | Camp Fouqereaux, Phoenix ... | 492 | 152 | 0 | 0·0 | 0 | 0 | — | 0 | 0 | 0 | |
| 41 | St. Jean Bosco R. C., Curepipe Rd. | 500 | 150 | 0 | 0·0 | 0 | 0 | — | 0 | 0 | 0 | |
| 42 | Rose-Belle Govt. Girls ... ... | 475 | 147 | 0 | 0·0 | 0 | 0 | — | 0 | 0 | 0 | |
| 43 | Mare D'Albert Govt. ... ... | 248 | 153 | 5 | 3·3 | 4 | 1 | 4 : 1 | 0 | 3 | 2 | |
| 44 | St. Patricia, Plaine Magnien ... | 386 | 146 | 15 | 10·3 | 8 | 7 | 8 : 7 | 0 | 6 | 9 | |
| 45 | Vieux Grand-Port R. C. ... ... | 210 | 152 | 0 | 0·0 | 0 | 0 | — | 0 | 0 | 0 | |
| 46 | St. Joseph, Montagne Blanche ... | 120 | 89 | 0 | 0·0 | 0 | 0 | — | 0 | 0 | 0 | |
| 47 | Plaine des Papayes Govt. ... ... | 750 | 150 | 3 | 2·0 | 1 | 2 | 1 : 2 | 0 | 0 | 3 | |
| 48 | Quatre Cocos Govt. ... ... | 241 | 148 | 0 | 0·0 | 0 | 0 | — | 0 | 0 | 0 | |
| 49 | Fond du Sac Govt. ... ... | 387 | 153 | 1 | 0·7 | 1 | 0 | — | 0 | 1 | 0 | |
| 50 | Grand River S. E. ... ... ... | 318 | 143 | 0 | 0·0 | 0 | 0 | — | 0 | 0 | 0 | |
| | GRAND TOTAL ... ... | 22,948 | 7,318 | 666 | 9·2 | 437 | 229 | 1·9 : 1 | 29 | 326 | 291 | |
| | | | | | | | | | (4%) | (49%) | (44%) | + 20 over 15 years (3%) |

---

* N.B.—The Industrial School, Beau-Bassin, is an institution for delinquent boys from all areas and therefore has no local geographical significance.

### C. THE SPECIAL CASE OF PORT LOUIS

Port Louis city is the centre of the most heavily infected area in the island, the area extending approximately from Bambous and Grande Rivière N.W. in the South to Pamplemousses in the North. It is instructive to note the much higher infection rate in the schools in the northern half of the city as follows :—

*Northern side of Port Louis* :—

| | % | |
|---|---|---|
| Eastern suburb ... ... | 29 | average of 5 = 29% |
| Père Laval ... ... ... | 63 | |
| Sacré Cœur de Jésus ... | 15 | |
| Nicolay Road ... ... | 26 | |
| Central Boys ... ... ... | 13 | |

*Southern side of Port Louis* :—

| | % | |
|---|---|---|
| Loretto Convent ... ... | 2 | average of 5 = 4% |
| de La Salle ... ... ... | 11 | |
| Central Girls ... ... ... | 1 | |
| Bon Secours ... ... ... | 4 | |
| Western Suburb ... ... | 1 | |

This marked difference is almost certainly associated with the River Latanier and the Père Laval Stream as sources of infection and possibly also with the fact that the poorer class of population in north Port Louis is more exposed to infection. Were it not for de La Salle School (which is near the centre of the town) one could say that infection is largely confined to the northern half. The Latanier river might be a suitable place to initiate snail control measures if these were undertaken in the future. But very few snails, and no *B. forskali* were found in the lower reach of the River Lataniers where the effluent from a factory passes into the stream and where also much washing with soap is undertaken. *B. forskali* was found higher up at Vallée des Prêtres, but was not found higher up still on the flank of the mountain.

## Commentary and Summary

The above survey indicates that schistosomiasis, caused exclusively by *S. haematobium*, is widespread throughout certain areas of Mauritius and constitutes a major health and biological problem. The regions of highest endemicity are the Port Louis area, the northern part of the island north of the Port Louis—Argy—Flacq line, a southern belt centering round Carreau Acacias, the urban centres of Plaines Wilhems, and, more scantily, along the Black River coast. It is absent or very scanty in the central highlands and thinly populated "bush" areas. The incidence in the juvenile and adolescent population in certain areas is significantly high. Although the overall percentage among the school children examined was only 9,2 per cent it should be understood that the survey was designed to cover areas of scanty or no infection as well as areas of heavy infection. The incidence among children in the areas of high endemicity must be very much higher as the figures from certain schools show.

There seems to be general evidence that Schistosomiasis tends to increase with a growth of population density and to be spread by irrigation. This has occurred, for instance, in Egypt, Iraq and the Gezira province of the Sudan. As the population of Mauritius is increasing and the good communication system makes it easy for infected persons to travel nnd irrigation channels spread snails, there seems some reason to surmise that an increase of the incidence of this disease can be expected.

Comparing the routine figures from the three laboratories with the schoo survey it would seem that the proportion of all cases which is ever diagnosed must be very small.

As in other parts of the world, the number of infected males is about twice that of infected females, and the disease appears to be rare in infants, (under five years) and to die out, in many cases, in older subjects. This seems to be the general experience elsewhere. It is well known, however, that the worms can live for many years and that infection does not confer subsequent immunity. The disease is occupational to the extent that it is the rural labourer and village dweller who is liable to repeated exposure but the high incidence in Port Louis shows that, given an infected source, a serious infection rate can also exist in cities in spite of urban sanitation.

The experimental evidence all tends to incriminate *Bulinus* (*Pyrgophysa*) *forskali* as the mollusc vector and so to confirm the previous work of Adams, but the epedemiological evedence is conflicting. *B. forskali* should be considered the presumptive carrier but a second vector cannot be absolutely excluded.

The suggestion has been made that an animal reservoir host for *Schistosoma* might exist in the island. Apart from domestic stock, the mammals of Mauritius are deer, monkey, wild pig, mongoose, tenrec, rat, hare, mouse, shrew, and flying fox. The monkey is by far the most likely. Cameron (1928) found natural infection with *S. Mansoni* in wild monkeys in the rather similar island of St. Kitts, West Indies. It is well known that both wild and domestic animals act as reservoir hosts for asiatic schistosomiasis (S. Japonicum). There has so far been no chance to investigate this.

## ACKNOWLEDGEMENTS.

I express my thanks to the Director of Medical Services for suggesting this work and for his support and help and to the Director of Education for facilitating the visits to schools, and also to the technical staff of the Central Laboratory Reduit for their loyal cooperation in much arduous routine; to the teaching staffs of the schools visited for helpful assistance; to the officers in charge of the Industrial School, Beau Bassin, for permitting me to obtain specimens of viable ova as required for experiments and to Mr. Vinson of the Mauritius Institute and Dr. Gaud of the W.H.O for helpful advice.

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S. G. COWPER,
*Pathologist.*

# APPENDIX III

## DISTRICT CENSUS OF THE ADULT MOSQUITO POPULATION MADE CHIEFLY IN THE DWELLINGS OF THE COASTAL BELT AFTER THE APPLICATION OF D.D.T.

| *Date 1952* | *Locality* | *No. of dwellings searched* | *No. of rooms in the dwellings* | *No. of adults found* | |
|---|---|---|---|---|---|
| | | | | *A. gambiæ* | *Culicines* |
| | PAMPLEMOUSSES | | | *Day knock-downs* | |
| January 10th | Trou aux Biches | 22 | 55 | — | 21 |
| ,, 11th | Le Hochet | 22 | 52 | — | 18 |
| ,, 16th | Tombeau Bridge | 22 | 47 | — | 155 |
| ,, 21st | Gde. Pointe aux Piments | 22 | 44 | — | 32 |
| ,, 21st | Pte. Pointe aux Piments | 22 | 45 | — | 16 |
| ,, 23rd | Ville Valio | 7 | 14 | — | 43 |
| ,, 23rd | Petit Gamin | 15 | 33 | — | 41 |
| ,, 25th | Baie du Tombeau | 22 | 51 | — | 64 |
| ,, 28th | Tombeau Bridge | 22 | 50 | — | 48 |
| Feb. 8th | Tombeau Bridge | 22 | 45 | — | 109 |
| ,, 13th | Petit Gamin | 12 | 27 | — | 21 |
| ,, 25th | Gde. Pointe aux Piments | 22 | 48 | — | 102 |
| ,, 26th | Pte. Pointe aux Piments | 22 | 45 | — | 109 |
| March 6th | Baie du Tombeau | 22 | 48 | — | 188 |
| | | | | *Night knock-downs* | |
| May 5th | Baie du Tombeau | 13 | 25 | — | 11 |
| ,, 12th | Le Hochet | 14 | 34 | — | 31 |
| ,, 26th | Ville Valio | 7 | 14 | — | 8 |
| ,, 26th | Petit Gamin | 7 | 17 | — | 12 |
| ,, 27th | Tombeau Bridge | 14 | 31 | — | 22 |
| ,, 28th | Arsenal | 14 | 27 | 1 | 33 |
| ,, 29th | Terre Rouge | 14 | 33 | — | 35 |
| ,, 30th | Gde. Pointe aux Piments | 14 | 17 | — | 2 |
| June 2nd | Solitude | 14 | 41 | — | 67 |
| ,, 3rd | Riche Terre | 14 | 35 | — | 19 |
| ,, 4th | Beau Plan | 13 | 43 | — | 46 |
| ,, 6th | Pte. Pointe aux Piments | 14 | 26 | — | 9 |
| | | | | *Day knock-downs* | |
| June 9th | Trou aux Biches | 22 | 50 | — | 37 |
| July 2nd | Choisy | 6 | 31 | — | 2 |
| ,, 14th | Tombeau Bridge | 21 | 43 | — | 22 |
| ,, 15th | Ville Valio | 7 | 15 | — | 1 |
| ,, 15th | Petit Gamin | 12 | 28 | — | 1 |
| ,, 26th | Le Hochet | 13 | 30 | — | 3 |
| ,, 28th | Beau Plan | 18 | 66 | — | 11 |
| ,, 30th | Baie du Tombeau | 13 | 25 | — | 57 |
| August 26th | St. Joseph | 11 | 23 | 1 | 7 |
| ,, 26th | Arsenal | 11 | 22 | — | 21 |
| ,, 28th | Baie du Tombeau | 16 | 40 | — | 39 |
| ,, 29th | Ville Valio | 6 | 14 | — | 3 |
| ,, 29th | Petit Gamin | 16 | 36 | — | 7 |
| Sept. 2nd | Tombeau Bridge | 21 | 42 | — | 6 |
| ,, 22nd | Le Hochet | 13 | 28 | — | 8 |
| ,, 24th | Terre Rouge | 13 | 28 | — | 56 |
| ,, 24th | St. Joseph | 12 | 25 | — | 19 |
| ,, 25th | Solitude | 26 | 60 | — | 54 |
| ,, 29th | Tombeau Bridge | 17 | 37 | — | 266 |

| *Date 1952* | *Locality* | *No. of dwellings searched* | *No. of rooms in the dwellings* | *No. of adults found* | |
|---|---|---|---|---|---|
| | | | | *A. gambiae* | *Culicines* |
| | PAMPLEMOUSSES—*continued* | | | *Day knock-downs* | |
| October 6th | Trou aux Biches | 20 | 54 | — | 240 |
| ,, 7th | Gde. Pointe aux Piments | 22 | 45 | — | 24 |
| ,, 8th | Pte. Pte aux Piments | 20 | 45 | — | 10 |
| ,, 9th | Arsenal | 22 | 46 | — | 157 |
| ,, 10th | Baie du Tombeau | 22 | 50 | — | 107 |
| ,, 11th | Le Hochet | 13 | 28 | — | 23 |
| ,, 31st | Petit Gamin | 17 | 40 | — | 126 |
| Nov. 6th | Tombeau Bridge | 17 | 38 | — | 109 |
| ,, 7th | Beau Plan | 18 | 57 | — | 66 |
| ,, 10th | Baie du Tombeau | 22 | 51 | — | 63 |
| ,, 18th | Terre Rouge | 10 | 21 | — | 43 |
| ,, 18th | St. Joseph | 11 | 22 | — | 4 |
| | | | | *Night knock-downs* | |
| Dec. 12th | Trou aux Biches | 16 | 42 | — | 14 |
| ,, 15th | Terre Rouge | 8 | 18 | — | — |
| ,, 15th | St. Joseph | 8 | 20 | — | — |
| | RIVIÈRE DU REMPART | | | *Day knock-downs* | |
| January 4th | Pavé | 11 | 23 | — | — |
| ,, 4th | Pavillon | 11 | 21 | — | — |
| ,, 9th | Cap Malheureux | 22 | 70 | — | — |
| Feb. 5th | Haute Rive | 4 | 8 | — | 35 |
| ,, 5th | Hermitage | 10 | 19 | — | 7 |
| ,, 5th | Ile D'Ambre Est | 6 | 19 | — | 43 |
| ,, 11th | Poudre d'Or | 22 | 52 | — | 101 |
| ,, 12th | Pte. Lascars | 14 | 28 | — | 62 |
| ,, 14th | Roches Noires | 12 | 35 | — | 7 |
| ,, 20th | Melville Couacaud | 22 | 48 | — | 31 |
| ,, 21st | Cap Malheureux | 22 | 56 | — | 231 |
| ,, 22nd | Pavillon | 11 | 19 | — | 11 |
| ,, 22nd | Pavé | 11 | 19 | — | 23 |
| June 10th | Pavillon | 11 | 22 | — | 2 |
| ,, 10th | Pavé | 10 | 20 | — | 3 |
| ,, 11th | Cap Malheureux | 22 | 62 | — | 8 |
| ,, 16th | Pointe Lascars | 22 | 44 | — | — |
| ,, 17th | Haute Rive | 2 | 4 | — | 1 |
| ,, 17th | Hermitage | 10 | 17 | — | 1 |
| ,, 17th | Ile D'Ambre Est | 6 | 22 | — | — |
| ,, 18th | Poudre D'Or | 22 | 49 | — | — |
| ,, 19th | Melville Couacaud | 22 | 44 | — | — |
| ,, 20th | Grand Gaube | 22 | 52 | — | — |
| ,, 25th | Roches Noires | 21 | 57 | — | — |
| July 1st | St. Antoine | 19 | 57 | — | 3 |
| ,, 2nd | Peyrebere | 11 | 23 | — | — |
| ,, 29th | Hermitage | 11 | 19 | — | — |
| ,, 29th | Ile D'Ambre Est | 8 | 21 | — | — |
| Sept. 17th | Roches Noires | 22 | 51 | — | 47 |
| ,, 19th | Hermitage | 13 | 23 | — | 52 |
| ,, 19th | Ile D'Ambre Est | 9 | 28 | — | 26 |
| ,, 26th | Melville Couacaud | 26 | 53 | — | 1 |
| ,, 30th | Cap Malheureux | 26 | 76 | — | 8 |
| October 1st | Pavé | 13 | 26 | — | 3 |
| ,, 1st | Pavillon | 13 | 26 | — | 3 |
| ,, 3rd | Pointe Lascars | 26 | 50 | — | 125 |
| Nov. 28th | Cap Malheureux | 14 | 46 | — | 1 |
| ,, 28th | Petit Paquet | 9 | 19 | — | — |

| Date 1952 | | Locality | No. of dwellings searched | No. of rooms in the dwellings | No. of adults found | |
|---|---|---|---|---|---|---|
| | | | | | *A. gambia* | *Culicines* |
| | | RIVIÈRE DU REMPART—*continued* | | | *Night knock-downs* | |
| Dec. | 1st | Cap Malheureux | 14 | 31 | — | 1 |
| ,, | 16th | Haute Rive | 3 | 6 | — | 16 |
| ,, | 16th | Ile D'Ambre Est | 6 | 18 | — | — |
| ,, | 16th | Hermitage | 7 | 13 | — | — |
| ,, | 18th | Hermitage | 8 | 18 | | 2 |
| ,, | 18th | Pointe Lascars | 8 | 14 | — | — |
| ,, | 19th | Pavé | 8 | 16 | — | — |
| ,, | 19th | Pavillon | 8 | 17 | — | 1 |
| ,, | 22nd | Roches Noires | 16 | 35 | — | — |
| | | FLACQ | | | *Day knock downs* | |
| February | 1st | Pont Blanc | 22 | 39 | — | 73 |
| ,, | 6th | Poste de Flacq | 21 | 45 | — | 57 |
| ,, | 7th | Trou d'Eau Douce | 22 | 49 | — | 8 |
| March | 3rd | Belle Mare | 11 | 42 | — | 87 |
| June | 23rd | Palmar | 22 | 45 | — | — |
| ,, | 24th | Pont Blanc | 22 | 40 | — | — |
| ,, | 26th | Belle Mare | 18 | 33 | — | 17 |
| ,, | 30th | Clemencia | 22 | 40 | — | 2 |
| July | 3rd | Belle Rose | 22 | 42 | — | 11 |
| ,, | 7th | Trou d'Eau Douce | 11 | 25 | — | — |
| ,, | 7th | Beau Rivage | 11 | 34 | — | 11 |
| ,, | 18th | Poste de Flacq | 22 | 45 | — | 17 |
| Sept. | 9th | Pont Blanc | 22 | 40 | — | 72 |
| ,, | 11th | Palmar | 22 | 42 | — | 42 |
| ,, | 15th | Belle Mare | 22 | 44 | — | 92 |
| ,, | 16th | Trou d'Eau Douce | 22 | 51 | — | 50 |
| Oct. | 29th | Providence | 10 | 19 | — | 22 |
| ,, | 29th | Choisy | 10 | 28 | — | 14 |
| Nov. | 4th | Belle Mare | 22 | 43 | — | 23 |
| | | | | | *Night knock-downs* | |
| Dec. | 2nd | Palmar | 16 | 33 | — | 2 |
| ,, | 4th | Beau Rivage | 8 | 25 | — | 7 |
| ,, | 4th | Trou d'Eau Douce | 8 | 18 | — | 30 |
| ,, | 5th | Poste de Flacq | 15 | 32 | — | 25 |
| ,, | 8th | Palmar | 16 | 28 | 5 | 28 |
| ,, | 9th | Constance | 11 | 42 | — | 72 |
| ,, | 10th | Pont Blanc | 14 | 27 | — | 12 |
| ,, | 11th | Choisy | 8 | 16 | — | 2 |
| ,, | 11th | Providence | 7 | 14 | — | 4 |
| | | GRAND PORT | | | *Day knock-downs* | |
| January | 29th | Carreau Esnouf | 22 | 42 | — | 39 |
| ,, | 31st | Bon Espoir | 11 | 23 | — | 2 |
| ,, | 31st | Rivière des Créoles | 11 | 26 | — | 11 |
| March | 7th | Carreau Esnouf | 19 | 34 | — | 77 |
| ,, | 10th | Rivière des Créoles | 11 | 24 | — | 40 |
| ,, | ,, | Bon Espoir | 11 | 19 | — | 22 |
| ,, | 11th | Beau Vallon | 14 | 57 | 6 | 149 |
| ,, | 13th | Anse Jonchée | 22 | 42 | — | 41 |
| ,, | 14th | Grand Sable | 22 | 44 | — | 99 |
| | | | | | *Night knock-downs* | |
| April | 15th | Carreau Esnouf | 15 | 30 | — | 32 |
| ,, | 16th | Plaine Magnien | 15 | 24 | — | 62 |
| ,, | 17th | Union Vale Est | 20 | 41 | — | 20 |
| ,, | 18th | Carreau Cassia | 15 | 29 | — | 10 |
| ,, | 21st | Mon Désert | 15 | 29 | — | 52 |
| ,, | 22nd | Virginia | 14 | 37 | — | 7 |

| *Date 1952* | | *Locality* | *No. of dwellings searched* | *No. of rooms in the dwillings* | *No. of adults found* | |
|---|---|---|---|---|---|---|
| | | | | | *A. gambiae* | *Culicines* |
| | | GRAND PORT—*continued* | | | *Night knock-downs* | |
| April | 23rd | Sauveterre | 14 | 45 | — | 21 |
| ,, | 24th | La Barraque | 6 | 39 | — | 40 |
| ,, | 25th | Savania | 12 | 41 | — | 32 |
| ,, | 28th | La Sourdine | 11 | 21 | — | 4 |
| ,, | 29th | Beau Vallon | 11 | 45 | 1 | 129 |
| ,, | 30th | Pointe D'Esny | 14 | 39 | 18 | 11 |
| May | 2nd | Ville Noire | 9 | 20 | — | 17 |
| ,, | 9th | Rivière des Créoles | 14 | 26 | — | 9 |
| ,, | 14th | Le Vallon | 14 | 44 | — | 29 |
| ,, | 15th | Grand Bel Air | 14 | 35 | — | 22 |
| ,, | 16th | Vieux Grand Port | 10 | 26 | — | 13 |
| ,, | 20th | Bois des Amourettes | 14 | 37 | — | 144 |
| ,, | ,, | Anse Jonchée | 14 | 32 | — | 19 |
| | | | | | *Day knock-downs* | |
| July | 8th | Union Vale Est | 10 | 37 | — | 7 |
| ,, | ,, | Carreau Esnouf | 9 | 21 | — | — |
| ,, | 21st | Beau Vallon | 17 | 70 | — | 17 |
| ,, | 22nd | Pointe D'Esny | 20 | 68 | — | — |
| ,, | 23rd | La Barraque Sugar Estate | 15 | 79 | — | 5 |
| ,, | 25th | La Sourdine | 22 | 53 | — | 1 |
| August | 27th | Carreau Esnouf | 11 | 22 | — | 9 |
| ,, | ,, | Union Vale Est | 11 | 33 | — | 6 |
| Sept. | 1st | Rivière des Créoles | 11 | 25 | — | 36 |
| ,, | 1st | Bon Espoir | 11 | 21 | — | 37 |
| ,, | 4th | Beau Vallon | 18 | 64 | — | 15 |
| ,, | 8th | Anse Jonchée | 22 | 52 | — | 37 |
| Nov. | 13th | Carreau Esnouf | 24 | 46 | — | 1 |
| ,, | 20th | Beau Vallon | 22 | 83 | 1 | 15 |
| ,, | 21st | Anse Jonchée | 26 | 60 | — | 37 |
| ,, | 24th | Rivière des Créoles | 12 | 26 | — | — |
| ,, | 24th | Bon Espoir | 9 | 20 | — | 7 |
| ,, | 26th | Bambous Virieux | 22 | 62 | — | 8 |
| | | SAVANE | | | *Day knock-downs* | |
| July | 9th | St. Martin | 22 | 55 | — | 13 |
| ,, | 16th | Savannah S.E. | 21 | 67 | — | 12 |
| ,, | 17th | Surinam | 22 | 43 | — | 22 |
| | | | | | *Night knock-downs* | |
| Dec. | 29th | Bel Ombre | 13 | 60 | — | 26 |
| ,, | 30ih | St. Martin | 16 | 36 | — | 8 |
| | | | | | *Day knock-downs* | |
| Dec. | 31st | Macondé | 6 | 14 | — | 7 |
| ,, | 31st | Petit Cap | 6 | 14 | — | — |
| | | BLACK-RIVER | | | *Day knock-downs* | |
| January | 3rd | Camp Créoles Albion | 16 | 32 | — | 9 |
| ,, | 7th | Canot | 11 | 25 | — | 4 |
| ,, | 7th | Gros-Cailloux | 11 | 26 | — | 2 |
| ,, | 8th | Clarence | 11 | 37 | — | — |
| ,, | 8th | Camp la Boue | 11 | 23 | — | — |
| ,, | 12th | Volmar | 10 | 27 | — | 15 |
| ,, | 14th | Camp des Créoles Albion | 6 | 10 | — | 1 |
| ,, | 15th | Canot | 11 | 26 | — | 13 |
| ,, | 15th | Gros Cailloux | 11 | 23 | — | 3 |
| ,, | 17th | Gauthier | 13 | 26 | — | 7 |
| ,, | 17th | Baie du Tamarin | 9 | 22 | — | 10 |
| ,, | 18th | Pte. Rivière Noire | 22 | 47 | — | 29 |
| ,, | 19th | Flic-en-Flacq | 12 | 34 | — | 19 |
| ,, | 24th | Case Noyale | 22 | 45 | — | 151 |

| *Date 1952* | | *Locality* | *No. of dwellings searched* | *No. of rooms in the dwellings* | *No. of adults found* | |
|---|---|---|---|---|---|---|
| | | | | | *A. gambiae* | *Culicines* |
| | | BLACK RIVER—*continued* | | | *Day knock-downs* | |
| Feb. | 2nd | Volmar | 10 | 29 | — | 7 |
| ,, | 15th | La Gaulette | 15 | 35 | — | 42 |
| ,, | 18th | Camp Créoles Albion | 22 | 42 | — | 53 |
| ,, | 19th | Canot | 9 | 19 | — | 34 |
| ,, | 19th | Gros Cailloux | 8 | 19 | — | 14 |
| ,, | 23rd | Flic-en-Flac | 9 | 20 | — | 17 |
| ,, | 27th | Camp la Bone | 11 | 24 | — | 9 |
| ,, | 27th | Clarence | 11 | 26 | — | 10 |
| ,, | 28th | Gauthier | 13 | 28 | — | 46 |
| ,, | 28th | Baie du Tamarin | 8 | 18 | — | 91 |
| March | 1st | Volmar | 10 | 27 | — | 32 |
| ,, | 4th | Pointe Rivière Noire | 22 | 46 | 2 | 271 |
| ,, | 5th | Tamarin Est | 20 | 41 | — | 16 |
| ,, | 12th | Camp Lallah | 7 | 14 | — | 33 |
| ,, | 12th | La Mecque | 11 | 32 | — | 36 |
| ,, | 15th | Pointe aux Sables | 11 | 27 | 1 | 88 |
| ,, | 17th | Anna Estate | 15 | 49 | — | 62 |
| ,, | 18th | Camp Galets (Médine) | 16 | 62 | — | 17 |
| | | | | | *Night knock-downs* | |
| March | 19th | Bambous | 14 | 37 | — | 141 |
| ,, | 20th | ,, | 7 | 13 | — | 37 |
| ,, | 20th | Gauthier | 9 | 20 | 1 | 5 |
| ,, | 21st | ,, | 6 | 13 | 3 | 17 |
| ,, | 21st | Belle Isle | 8 | 24 | — | 136 |
| ,, | 24th | Clarence | 7 | 14 | — | 3 |
| ,, | 24th | Camp la Boue | 8 | 17 | — | 8 |
| ,, | 25th | Belle Vue | 8 | 26 | 4 | 16 |
| ,, | 26th | Petite Rivière | 15 | 29 | 2 | 58 |
| ,, | 27th | Pointe aux Sables | 15 | 35 | — | 154 |
| ,, | 28th | ,, | 15 | 37 | — | 153 |
| ,, | 31st | Gros Cailloux | 7 | 16 | 2 | 27 |
| ,, | 31st | Canot | 10 | 20 | — | 14 |
| April | 1st | Gros Cailloux | 7 | 18 | 5 | 31 |
| ,, | 1st | Canot | 8 | 14 | — | 33 |
| ,, | 2nd | Flic-en-Flac | 16 | 36 | — | 19 |
| ,, | 3rd | Camp Créoles—Albion | 14 | 26 | 2 | 12 |
| ,, | 4th | Camp Galets (Médine) | 13 | 41 | — | 19 |
| ,, | 7th | Grande Rivère Noire | 14 | 30 | — | 17 |
| ,, | 8th | Petite Rivière Noire | 17 | 37 | 3 | 88 |
| ,, | 9th | Les Salines | 13 | 28 | 2 | 75 |
| ,, | 10th | Case Noyale | 15 | 35 | 1 | 47 |
| | | BLACK RIVER | | | *Day knock-downs* | |
| June | 13th | Camp Créole Albion | 17 | 32 | — | 4 |
| ,, | 14th | Wolmar | 12 | 28 | — | 4 |
| ,, | 28th | Camp Galets (Médine) | 12 | 43 | — | — |
| July | 4th | Camp Créoles Albion | 16 | 34 | — | 2 |
| ,, | 10th | Canot | 9 | 18 | — | — |
| ,, | 10th | Gros Cailloux | 9 | 23 | — | — |
| ,, | 12th | Pointe aux Sables | 13 | 32 | — | 11 |
| ,, | 19th | Belle Vue | 9 | 31 | — | 62 |

| *Date 1952* | | *Locality* | *No. of dwellings searched* | *No. of rooms in the dwellings* | *No. of adults found* | |
|---|---|---|---|---|---|---|
| | | | | | *A. gambaie* | *Culicines* |
| | | BLACK RIVER—*continued* | | | *Day knock-downs* | |
| August | 2nd | Flic-en-Flacq | 11 | 32 | — | 2 |
| ,, | 4th | Camp la Boue | 10 | 24 | — | — |
| ,, | 4th | Clarence | 10 | 24 | — | 1 |
| ,, | 5th | Gauthier | 13 | 27 | — | 2 |
| ,, | 5th | Baie du Tamarin | 6 | 18 | — | 1 |
| ,, | 6th | Tamarin Est | 21 | 48 | — | — |
| ,, | 7th | Grande Rivière Noire | 19 | 38 | — | 3 |
| ,, | 8th | Petite Rivière Noire | 22 | 48 | 1 | 260 |
| ,, | 11th | Les Salines | 21 | 51 | — | 5 |
| ,, | 12th | Belle Vue | 8 | 28 | 1 | 13 |
| ,, | 12th | Camp Créoles Albion | 9 | 15 | — | — |
| ,, | 13th | Case Noyale | 22 | 50 | — | 23 |
| ,, | 14th | Cascavelle | 18 | 44 | — | 3 |
| ,, | 16th | Pointe aux Sables | 8 | 16 | — | 14 |
| ,, | 18th | La Gaulette | 11 | 22 | — | — |
| ,, | 18th | Coteau Raffin | 11 | 29 | — | 1 |
| ,, | 19th | Morne Brabant | 22 | 41 | — | 5 |
| ,, | 20th | Bambous | 20 | 50 | — | 27 |
| ,, | 21st | Camp Lalah | 10 | 11 | — | 3 |
| ,, | 21st | Camp Galets (Medine) | 10 | 37 | — | 8 |
| ,, | 22nd | Médine Est | 7 | 35 | — | 7 |
| ,, | 22nd | Anna | 11 | 29 | — | 55 |
| Sept. | 3rd | Camp Créoles Albion | 16 | 28 | 1 | 3 |
| ,, | 5th | Gros Cailloux | 9 | 24 | — | 3 |
| ,, | 5th | Belle Vue | 10 | 30 | 2 | 49 |
| ,, | 12th | Belle Vue | 8 | 26 | — | 9 |
| ,, | 12th | Canot | 10 | 20 | — | 1 |
| ,, | 18th | Pointe aux Sables | 26 | 55 | — | 88 |
| Oct. | 2nd | Belle Vue | 8 | 21 | — | 4 |
| ,, | 2nd | Camp Créole Albion | 6 | 9 | — | 6 |
| ,, | 13th | Clarence | 12 | 35 | 2 | 3 |
| ,, | 13th | Camp la Boue | 10 | 23 | — | 13 |
| ,, | 14th | Gauthier | 15 | 31 | — | 4 |
| ,, | 14th | Baie du Tamarin | 7 | 18 | — | — |
| ,, | 17th | Petite Rivière | 15 | 31 | — | 4 |
| ,, | 21st | Pointe aux Sables | 26 | 61 | — | 52 |
| ,, | 22nd | Petite Rivière Noire | 25 | 69 | 1 | 92 |
| ,, | 23rd | Grande Rivière Noire | 25 | 59 | — | 71 |
| ,, | 24th | Flic-en-Flac | 23 | 55 | — | 7 |
| ,, | 27th | Cascavelle | 24 | 60 | — | 1 |
| ,, | 28th | Case Noyale | 26 | 56 | — | 440 |
| Nov. | 5th | Camp Créoles Albion | 13 | 22 | — | 4 |
| ,, | 17th | Petite Rivière | 26 | 69 | — | — |
| ,, | 25th | Pointe aux Sables | 26 | 64 | — | 38 |
| | | | | | *Night knock-downs* | |
| Dec. | 3rd | Camp Créoles Albion | 14 | 29 | 1 | 4 |
| ,, | 23rd | Baie du Tamarin | 7 | 15 | — | — |
| ,, | 23rd | Gauthier | 8 | 17 | — | — |
| ,, | 27th | Tamarin Est | 12 | 24 | — | 6 |
| | | PORT LOUIS | | | *Night knock-downs* | |
| May | 6th | Cassis | 15 | 39 | — | 13 |
| ,, | 7th | G. R. N. W. | 14 | 22 | — | 67 |
| ,, | 23rd | Cassis | 14 | 60 | — | 6 |
| | | | | | *Day knock-downs* | |
| July | 24th | Cassis | 10 | 26 | — | 110 |
| ,, | 24th | Bain des Dames | 11 | 26 | — | 36 |
| Aug. | 1st | Ste. Croix | 20 | 52 | — | 2 |
| ,, | 30th | G. R. N. W. | 13 | 30 | — | 12 |

| *Date 1952* | *Locality* | *No. of dwellings searched* | *No. of rooms in the dwellings* | *No. of adults found* | |
|---|---|---|---|---|---|
| | | | | *A. gambaie* | *Culicines* |
| | PORT LOUIS—*continued* | | | *Day knock-downs* | |
| Sept. 22nd | Ste. Croix | 13 | 30 | — | 2 |
| ,, 23rd | Bain des Dames | 13 | 26 | — | 20 |
| ,, 23rd | Cassis | 13 | 28 | — | 41 |
| Oct. 15th | Vallée Pitot | 19 | 51 | — | 20 |
| ,, 20th | Bain des Dames | 22 | 57 | — | 52 |
| Nov. 8th | Cassis | 14 | 41 | — | 61 |
| ,, 11th | G. R. N. W. | 22 | 48 | — | 44 |
| ,, 19th | Ste. Croix | 22 | 57 | — | 5 |
| ,, 27th | Cassis | 18 | 48 | — | 47 |
| | MOKA | | | *Day knock-downs* | |
| January 5th | Pailles | 10 | 25 | — | 7 |
| ,, 26th | ,, | 11 | 24 | — | 17 |
| Feb. 4th | ,, | 22 | 50 | — | 20 |
| ,, 16th | Valetta | 8 | 16 | — | 67 |
| March 8th | Pailles | 12 | 38 | — | 38 |
| | | | | *Night knock-downs* | |
| April 12th | Pailles | 9 | 21 | — | 18 |
| May 8th | Pailles | 14 | 29 | — | 63 |
| ,, 13th | Beau Bois | 10 | 45 | — | 27 |
| | | | | *Day knock-downs* | |
| June 21st | Pailles | 13 | 22 | — | 4 |
| ,, 27th | Les Guibies | 22 | 46 | — | 4 |
| July 5th | Montbello | 6 | 11 | — | 8 |
| ,, 5th | Pailles | 6 | 19 | — | 6 |
| August 9th | Pailles | 11 | 30 | — | 22 |
| ,, 23rd | Les Guibies | 11 | 19 | — | 12 |
| Sept. 6th | Pailles | 12 | 24 | — | 53 |
| ,, 10th | Petit Verger | 12 | 25 | — | 438 |
| ,, 20th | Pailles | 13 | 35 | — | 46 |
| October 4th | Pailles | 13 | 25 | — | 28 |
| ,, 18th | Beau Bois | 13 | 41 | — | 7 |
| ,, 25th | Pailles | 12 | 26 | — | 23 |
| ,, 30th | ,, | 17 | 38 | — | 14 |
| Nov. 14th | ,, | 19 | 48 | — | 15 |
| ,, 22nd | Les Guibies | 14 | 35 | — | 21 |
| ,, 29th | Pailles | 10 | 18 | — | 2 |
| | PLAINES WILHEMS | | | *Day knock-downs* | |
| January 30th | La Confiance | 9 | 24 | — | 59 |
| ,, 30th | Colonel Maingard Street | 9 | 23 | — | 15 |
| Feb. 29th | La Confiance | 8 | 27 | — | 90 |
| ,, 29th | Chebel | 6 | 23 | — | 42 |
| | | | | *Night knock-downs* | |
| May 21st | La Confiance | 13 | 37 | — | 42 |
| ,, 22nd | Chebel | 6 | 23 | — | 43 |
| July 11th | La Confiance | 9 | 26 | — | 15 |
| ,, 11th | Colonel Maingard Street | 9 | 24 | — | 11 |
| ,, 31st | La Confiance | 17 | 51 | — | 12 |
| Sept. 27th | ,, | 8 | 18 | — | 15 |
| Nov. 12th | ,, | 22 | 57 | — | 64 |
| ,, 15th | Beau Bassin Allotments | 10 | 34 | — | 43 |

# APPENDIX IV

## TABLE SHOWING LARVAL FINDINGS IN EACH DISTRICT

| *Date 1952* | | *Locality* | *Nature of Breeding-Ground* | *Species found* | |
|---|---|---|---|---|---|
| | | | | *A. gambiae* | *A. maculipalpis* |
| | | PAMPLEMOUSSES | | | |
| Jan. | 19th | Baie du Tombeau | Brakish water marsh | + | — |
| March | 11th | Ville Valio | Garden watering-pool | + | — |
| ,, | 11th | do. | Seepage water in tobacco-field | — | + |
| April | 1st | Baie du Tombeau | Garden watering-pool brackish water marsh | + | — |
| ,, | 26th | do. | Garden watering-pool brackish water marsh | + | — |
| May | 14th | Tombeau Bridge | Canal overflow in cane-field | + | — |
| ,, | 14th | do. | Seepage water | — | + |
| ,, | 19th | Solitude | Rain water stagnations | + | — |
| ,, | 21st | Chambly | Seepages along river-bank | + | — |
| ,, | 21st | St. Joseph | Garden watering-pool | + | — |
| ,, | 22nd | Arsenal | Garden watering-pool | + | — |
| ,, | 22nd | Arsenal | Canal overflow + seepages | + | + |
| ,, | 26th | Baie du Tombeau (Ville Valio side) | Brackish water marsh | + | — |
| ,, | 26th | Baie du Tombeau (Ville Valio side) | Seepages | + | + |
| July | 2nd | Choisy | Garden watering-pool | + | — |
| ,, | 14th | Solitude Est | Seepages in cane-field | — | + |
| ,, | 22nd | Arsenal | Seepages in garden and in tobacco-field | + | + |
| ,, | 22nd | Balaclava | Seepages in tobacco-field | — | + |
| ,, | 24th | Pamplemousses' Garden | Springs | + | + |
| ,, | 24th | Mon Rocher Est | Edges of water cress-bed | — | + |
| August | 1st | Pamplemousses' Garden | Canal overflow | + | + |
| Sept. | 9th | Creve-Ceour | Spring water | — | + |
| ,, | 29th | Beau Plan | Irrigation water overflow | + | — |
| Oct. | 18th | St. Joseph | Garden watering-pool | + | — |
| Nov. | 6th | do. | Seepages | + | + |
| ,, | 11th | Ville Valio | Garden watering-pool | + | — |
| ,, | 17th | Chambly | Seepages along river-bank | + | — |
| ,, | 17th | St. Joseph | Garden watering-pool | + | — |
| ,, | 17th | do. | Scepages | + | + |
| Dec. | 3rd | Pamplemousses' Garden | Water stagnations | + | — |
| ,, | 3rd | Beau Plan | Irrigation water overflow | + | + |
| ,, | 5th | Tombeau Bridge | Stagnant wafer-rain | + | — |
| ,, | 10th | Arsenal | Canal overflow | + | — |
| ,, | 18th | Baie du Tombeau | Garden watering-pool | + | — |
| ,, | 23rd | Tombeau Bridge | Garden watering-pool | + | — |
| ,, | 30th | Baie du Tombeau | Stagnant rain-water | + | — |
| | | RIVIERE DU REMPART | | | |
| Jan. | 15th | Cap Malheureux | Brackish water marshes | + | — |
| Feb. | 20th | Melville Couacaud | Brackish water marsh | + | — |
| April | 8th | Pointe Lascars | Brackish water marsh | + | — |
| ,, | 29th | Roches Noires | Garden watering-pool and brackish water marsh | + | — |
| June | 17th | Hermitage | Irrig. Water | + | — |
| ,, | 18th | Belmont | Brackish water marshes | + | — |
| Sept. | 8th | Ile D'Ambre Est | Irrig. water | + | — |
| Nov. | 20th | Belmont | Brackish water marshes | + | — |

| *Date 1952* | | *Locality* | *Nature of Breeding-Ground* | *Species found* | |
|---|---|---|---|---|---|
| | | | | *A. gambiae* | *A. maculipalpis* |
| | | FLACQ | | | |
| Feb. | 13th | Beau-Rivage | Brackish water marsh | + | – |
| March | 3rd | Belle Mare | Marsh water | + | – |
| June | 30th | Clemencia | Seepages | – | + |
| Oct. | 13th | Quatre-Soeurs | Spring water | – | + |
| Dec. | 9th | Palmar | Marsh water | + | – |
| | | GRAND-PORT | | | |
| March | 4th | Pointe d'Esny | Brackish-water marsh | + | – |
| ,, | 5th | Beau Vallon | Brackish-water marsh | + | – |
| ,, | 12th | Grand Sable | Springs | + | + |
| ,, | 13th | Bambous Virieux | Irrigation water | + | – |
| April | 21st | Carreau Esnouf | Water-cress bed | + | – |
| June | 19th | Bambous Virieux | Brackish-water marsh | + | – |
| ,, | 19th | Petit Sable | Springs | + | – |
| ,, | 19th | Grand Sable | Springs | – | + |
| Aug. | 21st | Pointe d'Esny | Brackish-water marsh | + | – |
| Sep. | 15th | Pointe d'Esny | Brackish-water marsh | + | – |
| Oct. | 21st | Grand Sable | Springs | – | + |
| ,, | 21st | Petit Sable | Springs | + | – |
| ,, | 22nd | Bambous Virieux | Rain water stagnation | + | – |
| | | SAVANE | | | |
| April | 3rd | Toulet | Spring water | + | + |
| | | BLACK-RIVER | | | |
| Jan. | 7th | Gros Cailloux | Irrigation water | + | – |
| ,, | 8th | Yemen | Seepages | + | + |
| ,, | 10th | Canot | Irrigation water | + | + |
| ,, | 11th | Gauthier | do. do. | + | + |
| ,, | 18th | do. | do. do. | + | + |
| ,, | 23rd | Gros Cailloux | do. do. | + | + |
| ,, | 24th | Gauthier | do. do. | + | + |
| Feb. | 1st | Gauthier | Irrigation water | + | + |
| ,, | 2nd | Wolmar | do. | + | + |
| ,, | 12th | Gros Cailloux | do. | + | — |
| ,, | 15th | Case Noyale | Brackish-water stream | + | — |
| ,, | 18th | Camp Créoles Albion | Irrigation water | + | – |
| ,, | 23rd | Flic-en-Flac | Springs | + | — |
| ,, | 27th | Clarence | Irrig. Canal leekage ; seepages | + | + |
| ,, | 27th | Camp la Boue | Canal overflow | + | — |
| ,, | 28th | Gauthier | Water-cress bed ; irrig. water | + | + |
| March | 1st | Pointe aux Sables | Brackish-water marsh | + | — |
| ,, | 7th | Camp Créoles Albion | Brackish-water marsh and irrigation water | + | — |
| ,, | 18th | Pointe aux Sables | Brackish-water marsh | + | — |
| ,, | 19th | Canot | Irrigation water | + | + |
| ,, | 19th | Gros Cailloux | do. | + | + |
| ,, | 25th | Camp Créolés Albion | Stream | + | — |
| ,, | 28th | Clarence | Garden watering-pool ; seepages | + | — |
| ,, | 29th | La Chaumière | Garden watering-pool ; seepages | + | — |
| April | 4th | Pointe Rivière Noire | Irrigation water | + | + |
| ,, | 9th | Petite Rivière | Garden watering-pool | + | – |
| ,, | 15th | Pointe aux Sables | Brackish-water marsh | + | – |
| ,, | 23rd | Canot | Irrigation water | + | + |
| ,, | 24th | Camp Créoles Albion | Water-cress bed ; irrig. water | + | — |

| *Date 1952* | | *Locality* | *Nature of Breeding-Ground* | *Species found* | |
|---|---|---|---|---|---|
| | | | | *A. gambiae* | *A macu lipalpis* |
| | | BLACK RIVER—*continued* | | | |
| May | 2nd | Gros Cailloux | Irrigation water | + | + |
| ,, | 5th | Albion | Brackish-water marsh ; seepages | + | — |
| ,, | 5th | do. | Seepages | + | + |
| ,, | 12th | Petite Rivière | Garden watering pool | + | — |
| ,, | 13th | La Chaumière | Springs | + | + |
| ,, | 16th | Gauthier | Irrig. water ; water-cress bed | + | + |
| ,, | 20th | Pointe Rivière Noire | River edge | + | — |
| ,, | 20th | do. | Seepages | + | + |
| ,, | 23rd | Gros Cailloux | Irrigation water | + | + |
| ,, | 27th | Bosquet | Seepages | + | + |
| ,, | 28th | Petite Rivière | Garden watering-pool ; reservoir | + | — |
| June | 4th | Canot | Irrigation water | + | + |
| ,, | 13th | Gros Cailloux | ,, | + | + |
| ,, | 14th | Wolmar | ,, | + | + |
| ,, | 23rd | Bambous | ,, | + | — |
| ,, | 24th | Gros Cailloux | Springs | + | + |
| ,, | 25th | Camp Créoles Albion | Edges of stream ; irrig. water | + | + |
| July | 4th | Belle Vue | Irrig. water ; reservoir | + | — |
| ,, | 4th | Petite Rivière | Irrig. water ; reservoir | + | — |
| ,, | 9th | Case Noyale | Edges of stream | + | — |
| ,, | ,, | Coteau Raffin | Spring... | + | — |
| ,, | ,, | La Gaulette | Garden watering-pool | + | — |
| ,, | 16th | Gauthier | Irrig. water and seepages | + | + |
| ,, | 16th | Clarence... | Irrig. water and seepages | — | + |
| ,, | 17th | Petite Rivière | Garden watering-pool | + | — |
| ,, | 17th | Petite Rivière | Seepages | + | + |
| ,, | 18th | Gros Cailloux | Springs | + | + |
| ,, | 18th | Canot | Irrigation water | + | + |
| ,, | 23rd | Albion | Springs | + | + |
| ,, | 23rd | Camp Créoles | Irrig. canal leekage... | + | + |
| August | 7th | Albion | Irrigation canal leekage ; seepages | + | + |
| ,, | 7th | Belle Vue | Irrig. water ; reservoir | + | — |
| ,, | 8th | Canot | Irrig. water springs... | + | — |
| ,, | 8th | Gros Cailloux | Springs | + | + |
| ,, | 11th | Case Noyale | Edges of stream ; seepages | + | + |
| ,, | 18th | Mon Repos (Bambous) | Garden watering-pool | + | — |
| ,, | 19th | Le Morne | Springs | + | — |
| ,, | 20th | Clarence... | Irrig. canal leekage... | + | + |
| ,, | 22nd | Petite Rivière | Garden watering-pools | + | — |
| ,, | 22nd | Gros Cailloux | Seepages | + | — |
| ,, | 26th | Bosquet | Garden watering-pools | + | — |
| Sep. | 3rd | Camp Créoles | Edges of stream; irrig. water | + | + |
| ,, | 5th | Petite Rivière | Garden watering-pool | + | — |
| ,, | 5th | Gros Cailloux | Springs | + | + |
| ,, | 19th | Canot | Garden watering-pool | + | — |
| ,, | 19th | Gros Cailloux | Water-cress bed ; edges of canal | + | + |
| ,, | 22nd | Albion | Edges of marshes ; seepages | + | — |
| October | 2nd | Camp Créoles Albion | Edges of river ; irrig. water | + | + |
| ,, | 4th | La Chaumière | Garden watering-pool | + | — |
| ,, | 10th | Gros Cailloux | Water-cress bed; irrig. water | + | + |
| ,, | 24th | La Mivoie Est | Irrig. water overflow | + | + |
| ,, | 24th | Gde. Rivière Noire | Marsh water; irrig. water | + | + |
| ,, | 25th | Gde. Rivière Noire | Brackish-water marsh | + | — |
| ,, | 30th | Albion Estate | Brackisk-water pools | + | — |
| ,, | 30th | Camp Créoles Albion | Irrigation water | + | + |
| Nov. | 5th | Canot | Water-cress bed; seepages | + | + |
| ,, | 5th | Gros Cailloux | Water-cress bed; irrigation water | + | + |

| *Date 1952* | *Locality* | *Nature of Breeding-Ground* | *Species found* | |
|---|---|---|---|---|
| | | | *A. gambiae* | *A. macutipalpis* |
| | BLACK RIVER—*continued* | | | |
| Nov. 7th | Grande Rivière Noire | Marsh water ; irrig. water | + | + |
| ,, 14th | La Chaumière | Garden watering-pool | + | — |
| ,, 14th | Saint Martin | Garden watering-pool | + | — |
| ,, 15th | Gros Cailloux | Water-cress bed; seepages | + | — |
| ,, 19th | Clarence | Irrigation canal leekage | + | — |
| ,, 25th | Pointe aux Sables | Brackish-water marsh | + | — |
| Dec. 4th | Saint Martin | Garden watering-pool | + | — |
| ,, 4th | La Chaumière | Garden watering-pool | + | — |
| ,, 12th | Gros Cailloux | Canal water and seepages | + | + |
| ,, 12th | Canot | Irrigation water | + | — |
| ,, 16th | Albion | Brackish water pools | + | — |
| ,, 16th | Albion | Irrigation water | + | + |
| ,, 19th | Grande Rivière Noire | Marsh water ; irrig. water | + | + |
| ,, 22nd | Flic-en-Flacq | Springs | + | — |
| | PORT LOUIS | | | |
| April 16th | Bain-des-Dames | Brackish water | + | — |
| ,, 17th | Pleasure Ground | Watering basins | + | — |
| ,, 25th | Sainte Croix | Stagnant rain-water | + | — |
| May 3rd | Pleasure Ground | Stagnant rain-water in stag-pen | + | — |
| ,, 7th | Vallée des Prêtres | Seepages | — | + |
| ,, 15th | Rivière Lataniers | Spring water ; stagnant rain water | + | — |
| June 6th | Pleasure Ground | Ornamental basins | + | — |
| August 14th | Vallée des Prêtres | Seepages | — | + |
| | MOKA | | | |
| January 9th | Pailles | Garden watering-pools | + | — |
| ,, 26th | do. | Garden watering-pools | + | — |
| Feb. 4th | do. | Garden watering-pools | + | — |
| ,, 19th | do. | Rain water stagnations | + | — |
| Nov. 13th | do. | Irrigation reservoir | + | — |
| ,, 22nd | do. | Garden watering pool | + | — |
| Dec. 11th | do. | Irrigation reservoir | + | — |
| ,, 27th | do. | Garden watering-pools | + | — |
| | PLAINES WILHEMS | | | |
| January 30th | La Confiance | Garden watering-pool; irrig. reservoir | + | — |
| Feb. 29th | ,, | Garden watering pool; irrig. reservoir and stagnant rain-water | + | — |
| March 20th | ,, | Irrigation overflow | + | — |
| ,, 24th | ,, | Irrigation overflow | + | — |
| ,, 27th | Chebel | Seepages and irrigation water | + | — |
| May 9th | La Confiance | Rain-water stagnation, garden watering-pool ; drum | + | — |
| ,, 30th | B. Bassin Allotments | Garden watering-pool | + | — |
| June 2nd | La Confiance | Garden watering-pool | + | — |
| July 8th | ,, | Garden watering-pool and seepages | + | — |
| ,, 11th | ,, | Garden watering-pool and seepages | + | — |
| October 14th | ,, | Garden watering-pool | + | — |
| Nov. 12th | ,, | Garden watering-pool | + | — |

# APPENDIX V

## An Account of the Poliomyelitis Epidemic of 1952 with some comparisons with the 1945 and 1948-49 Epidemic

### I. Introduction

Following the 1945 Poliomyelitis Epidemic in Mauritius the Island experienced two further epidemics. One in November, 1948, to February, 1949, and the last one in March, 1952. This report deals with these last two mainly. Where possible the three epidemics will be compared.

### II. The Outbreak

At the beginning of March, 1952, it became apparent that the number of cases of acute A.P.M. was increasing. By the last week in March there was no doubt that another epidemic had started. This reached its peak by mid April and petered out by the end of June.

A total of *284* cases were notified. Of this number all but 9 were seen at Floréal Hospital. A sharp contrast to the state of affairs in previous epidemics when many cases were never seen at the hospital.

*208* cases were admitted. 63 cases considered abortive were not admitted. 4 patients refused admission.

### III. Isolation

Here one must recognise that such a rate of admission must throw any hospital in a state of chaos and makes the greatest demands on all the staff. The one redeeming feature was that no cyclone visited the Island at that time. Such a contingency would have been appalling in the present precarious state of Floreal Hospital.

The whole question of dealing with acute cases is difficult. At that stage they are certainly not orthopædic problems and one wonders why an orthopædic hospital should be turned into an isolation hospital at every outbreak. It is true that a proportion of such cases will become orthophædic problems and that at the present time Floreal Hospital is probably better equipped to deal with such cases. On the other hand, an orthopædic hospital was never meant for infectious cases. The risk of spread to other patients must be kept in mind. In fact, a very small outbreak of A.P.M. occurred in one of the wards in the 1948 epidemic.

It seems best that acute cases should be in a proper Isolation Hospital; the Orthopædic Surgeon keeping a watching brief on them and the nursing staff suitably trained in dealing with paralysed limbs.

### IV. General Comparisons of the Various Epidemics

A study of the weekly notification figures (Figs I and II) reveals the explosive nature of the epidemic. In this it resembles the 1945 epidemic, although of a much lesser intensity. The disease in 1952 reached its peak in the various districts practically at the same time; suggesting wide dissemination of the virus over all the island.

In contrast the 1948-49 epidemic shows a much flatter curve—a plateau type (Figs. I and III). It would seem that dissemination of the disease then took place more slowly, travelling from district to district in a seemingly orderly way. For example, the disease having appeared in Port Louis some time during November 1948, reached its peak in that district on December 12th. In Pamplemousses and Rivière du Rempart its maximum intensity was on December 19th, while in Flacq it was on December 26th. Plaines Wilhems did not have its peak period until January 16th—5 weeks after Port Louis. The other districts held intermediate positions.

### V. AGE GROUPS

As expected, children under 3 years of age were the most affected: 67·2 per cent in 1952 and 60·3 per cent in 1948-49. The least affected were the 4 - 5 age group. The interesting observation, however, is the definite increase in the last 2 age groups 10–20 and over 20. Although such a trend would be a menace to the adult population in the future it is not an unusual finding. This tendency of a shift towards the higher age groups has been reported from various countries where the disease is endemic. In our particular case it is difficult to explain how people could have avoided infection during two previous epidemics with high attack rates. The possibility of various strains at work during the same epidemic, some having different selectivity for various age groups would be a possibility, but hardly probable. The low attack rate in the 4 - 5 age group would indicate that we might be dealing with the same virus as in 1948-49. This particular age group having the maximum protection from previous contact.

### VI. SEX INCIDENCE FIGS. VII AND VIII

In both epidemics the incidence is the same: 1.4 males to 1 female. This is not the absolute rate.

### VII. RACE INCIDENCE FIGS. IX AND X

Census figures for the various groups not being available, a broad division into Indian and General was made. The same pattern is found in the last two epidemics. The incidence in the Indian Population being practically twice as great. Such a finding was not paraleled in the 1945 epidemic (Mac Farlane and alia) where the attack rate seems to have been higher in the Chinese population and about the same in the other groups.

### VIII. INCIDENCE PER DISTRICT (FIG. XI)

As census figures could not be obtained, the incidence rate has not been worked out for the last epidemic. The chart for the 1948-49 epidemic is available and shows that the Northern Districts were most affected. At a glance it would seem that the same pattern may have repeated itself in the last epidemic. In 1945, too, Pamplemousses and Rivière du Rempart had a high attack rate; Flacq, however, being comparatively spared.

### IX. RELATION OF INCIDENCE TO DENSITY OF POPULATION AND RAINFALL (FIG. XII)

A report by Professor Melnotte on the 1949 epidemic in Reunion Island suggested that the incidence varied inversely to the rainfall. No definite correlation could be established for the 1948-49 epidemic.

### X. MORBIDITY AND MORTALITY (FIG. XIII)

A comparison of the three epidemics is most interesting and reassuring in certain respects. The figures for the last epidemic compare favourably with other reported epidemics. It is possible that the virus might be slowly losing its virulence. On the other hand, we might be dealing with a less virulent strain or the population might be getting more resistant.

## XI. SUMMARY AND CONCLUSIONS

(*a*) Some aspects of the 1952 epidemic have been considered and where possible comparison with previous epidemics made.

(*b*) It would appear that, in Mauritius, Poliomyelitis epidemics have adopted a 3½-year-cycle. The intensity of the attacks, however, have decreased by 50 per cent in succeeding epidemics. If it is safe to prophesy, an epidemic is to be expected about November 1955. It should be on a small scale.

(*c*) The maximum attack rate in the past epidemics has been reached about the 7th or 8th week. The duration of the epidemics have been roughly 14 weeks.

(*d*) Generally speaking the epidemic appears to develop more rapidily than it subsides.

(*e*) The three epidemics have left the island with nearly *1,000* cripples. The majority of them are still children and come from the labouring class. Soon they will be adults without any occupation and will be a charge to the State. Is is imperative that a suitable Rehabilitation Centre be started for the training of these cripples in a suitable trade. This is urgent.

(*f*) The provision of an Isolation Hospital for acute A.P.M. cases should be contemplated. Such a centre to work in cooperation with the Orthopædic Hospital during an epidemic.

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FIGURE I.

## POLIOMYELITS

### WEEKLY INCIDENCE DURING THE 1945, 1948-49 & 1952 OUTBREAKS

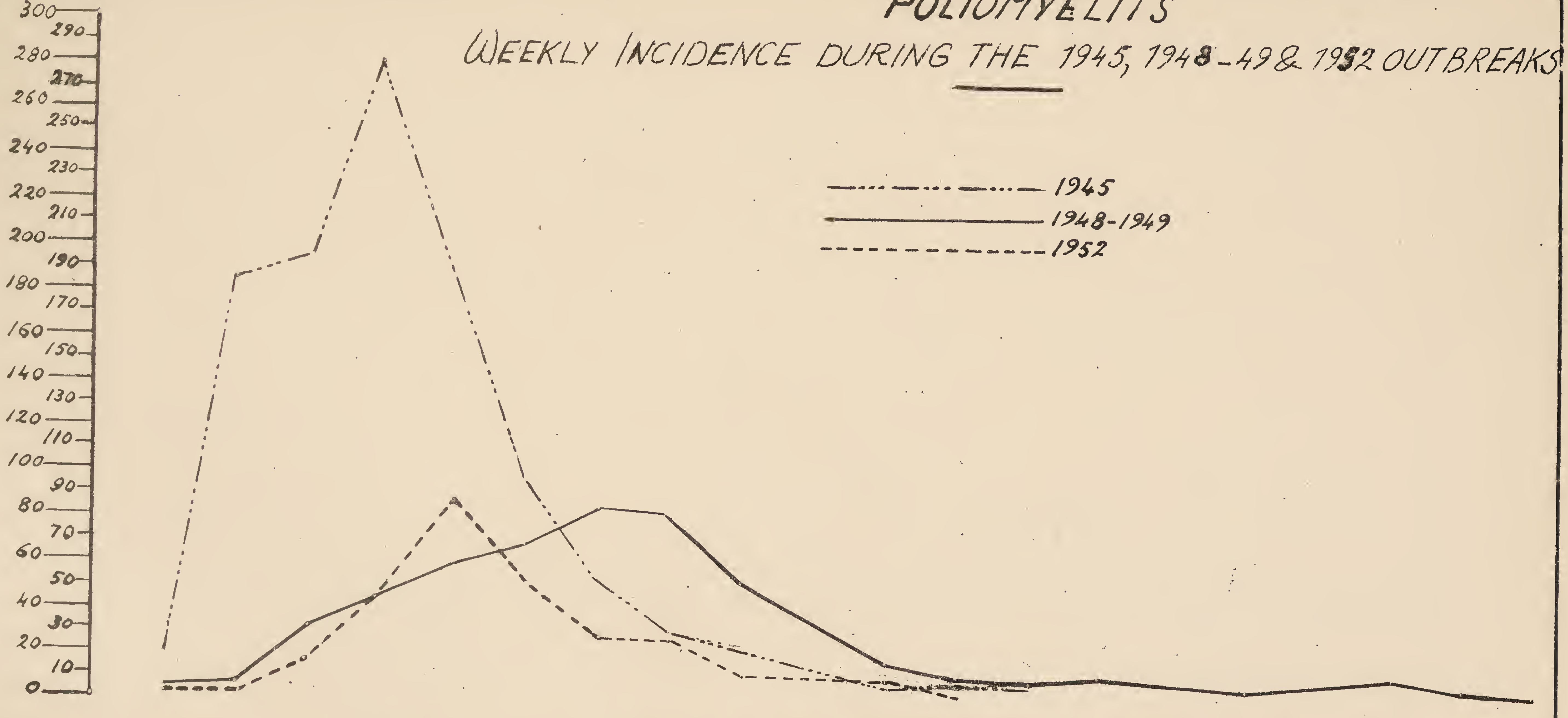


FIGURE II

WEEKLY NOTIFICATION 1952

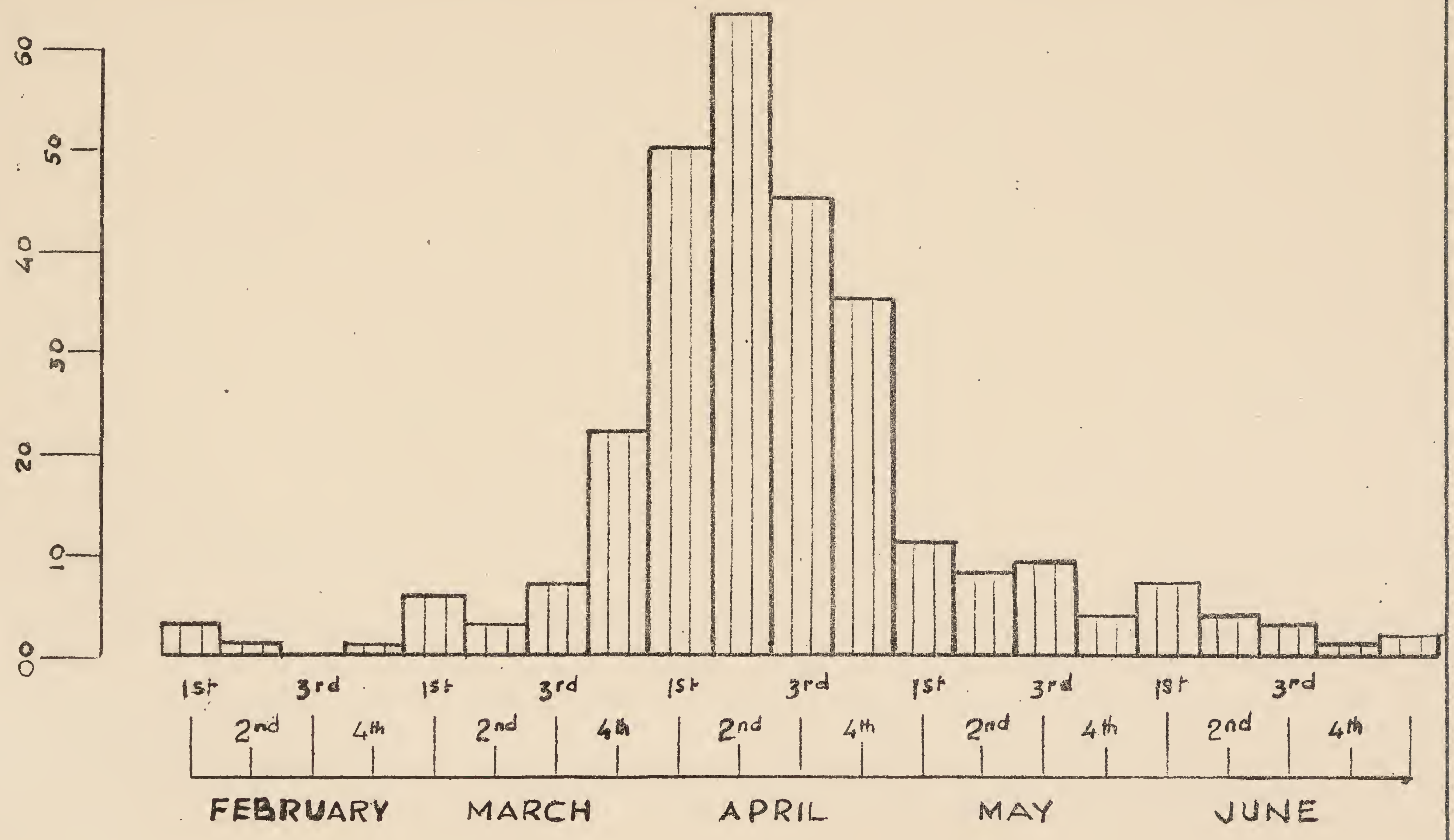


FIGURE III

INCIDENCE WEEKLY NOTIFICATIONS OF WHOLE ISLAND
November 1948 to February 1949

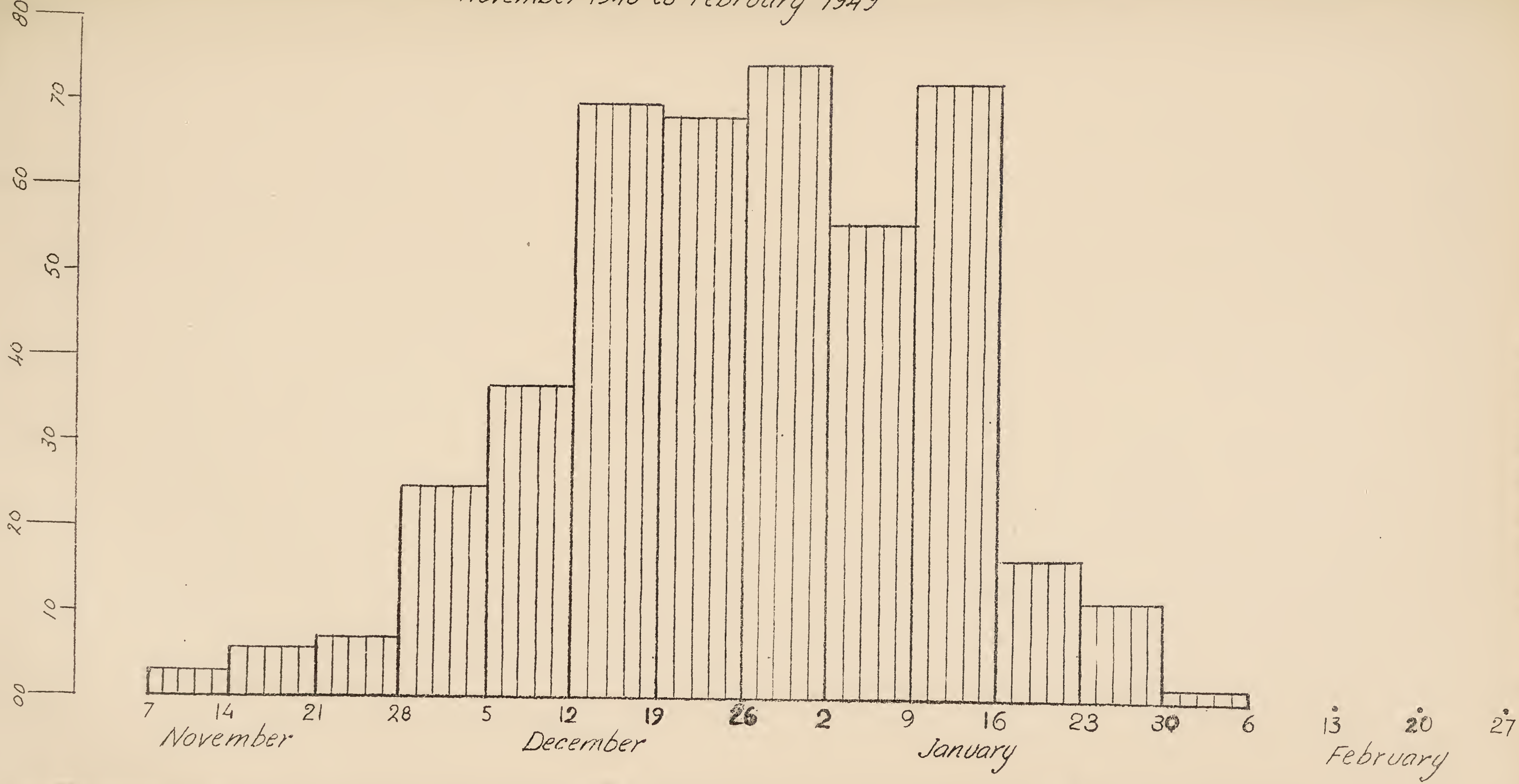
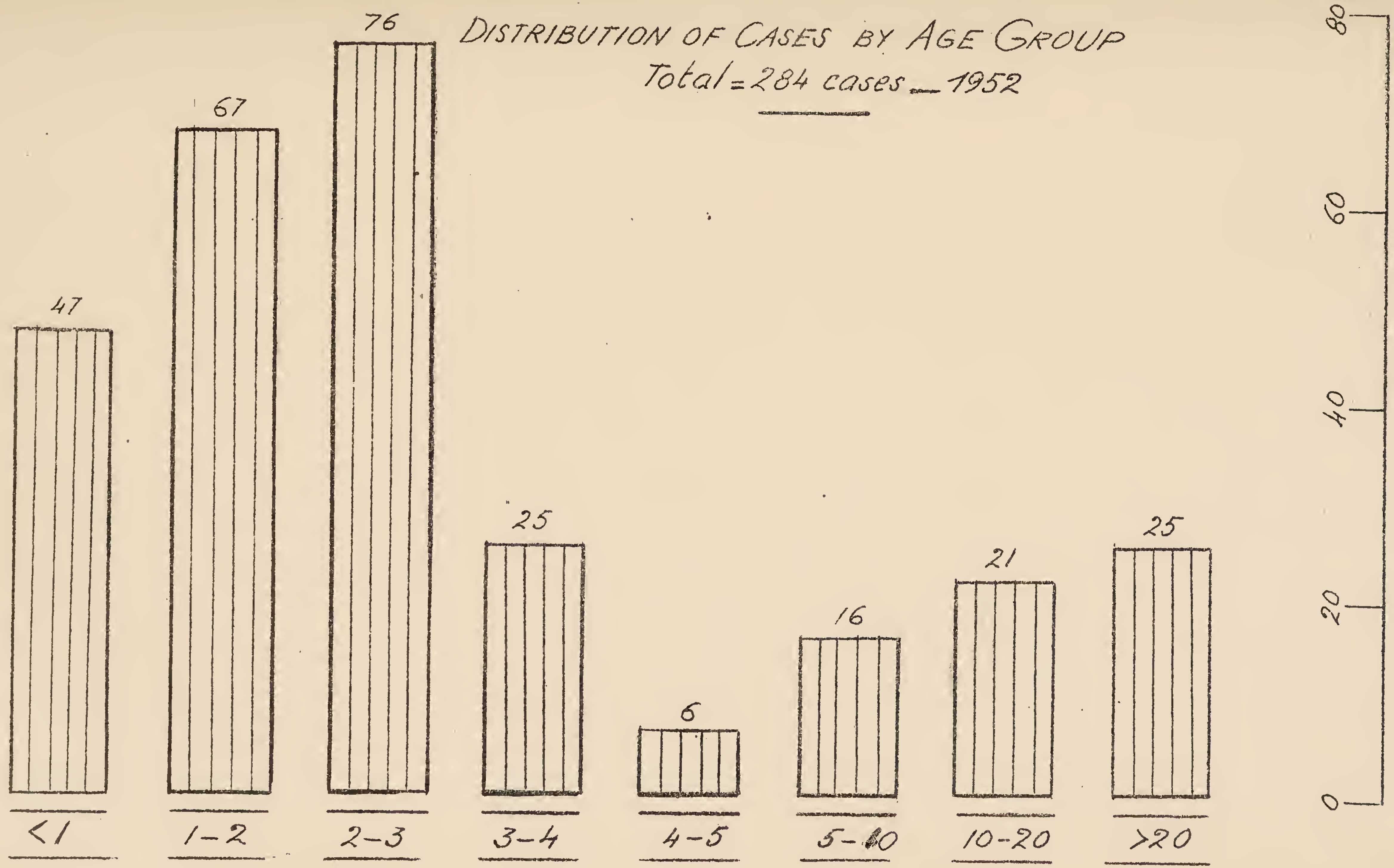
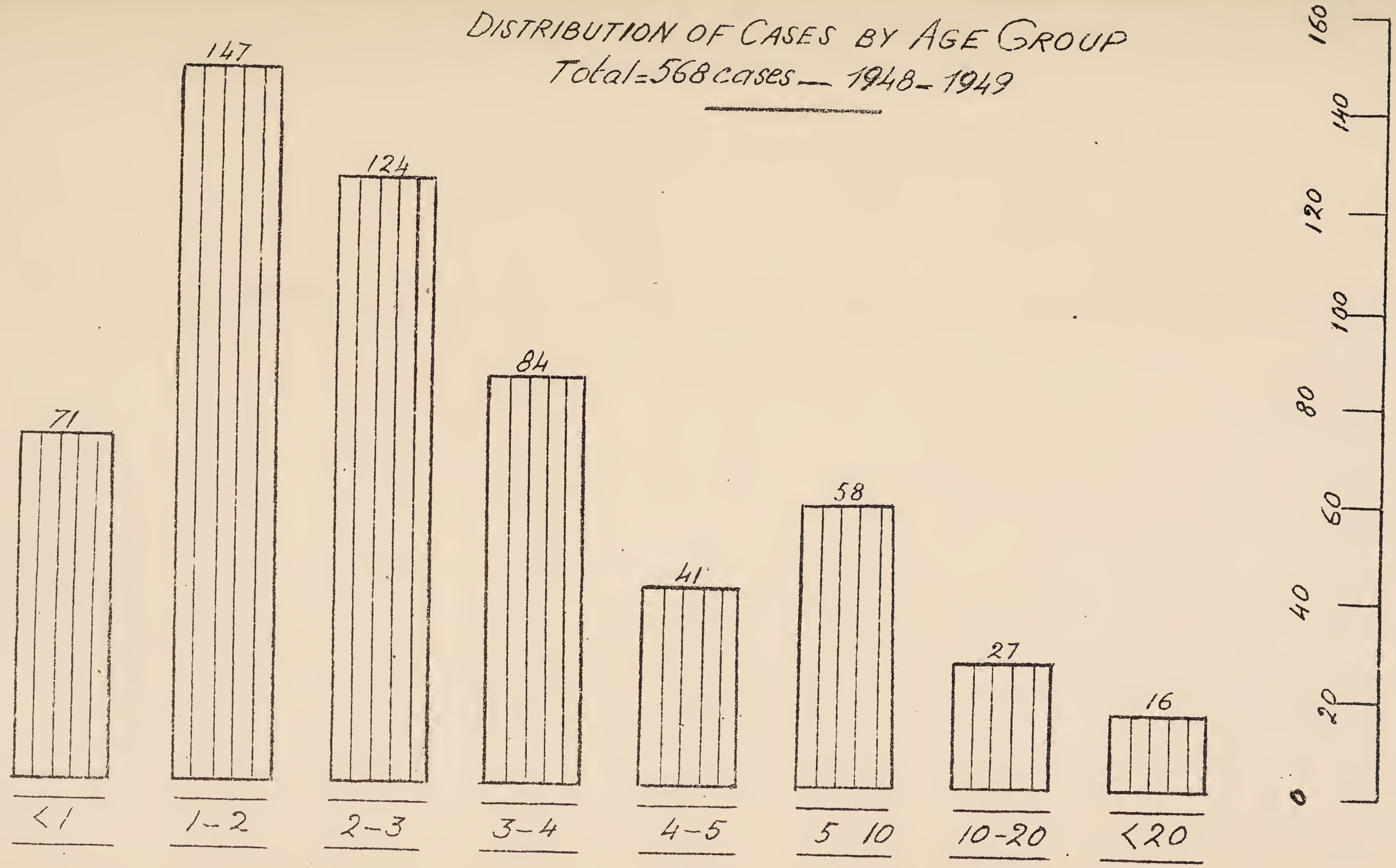


FIGURE IV



DISTRIBUTION OF CASES BY AGE GROUP
Total = 284 cases — 1952

FIGURE V.



DISTRIBUTION OF CASES BY AGE GROUP

Total=568 cases — 1948-1949

FIGURE VI.

PERCENTAGE OF CASES BY AGE GROUP

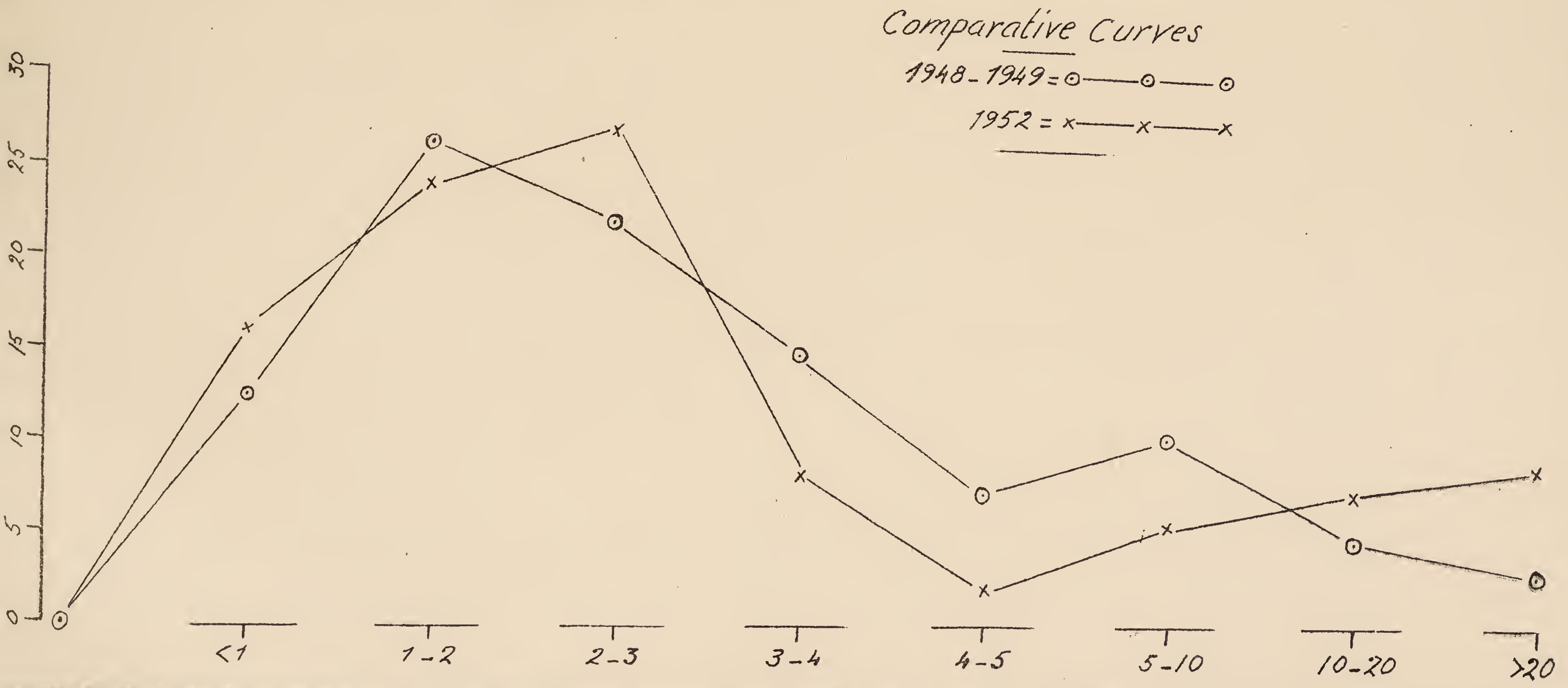


FIGURE VII

SEX DISTRIBUTION
M:F:: 1.4:1
1952

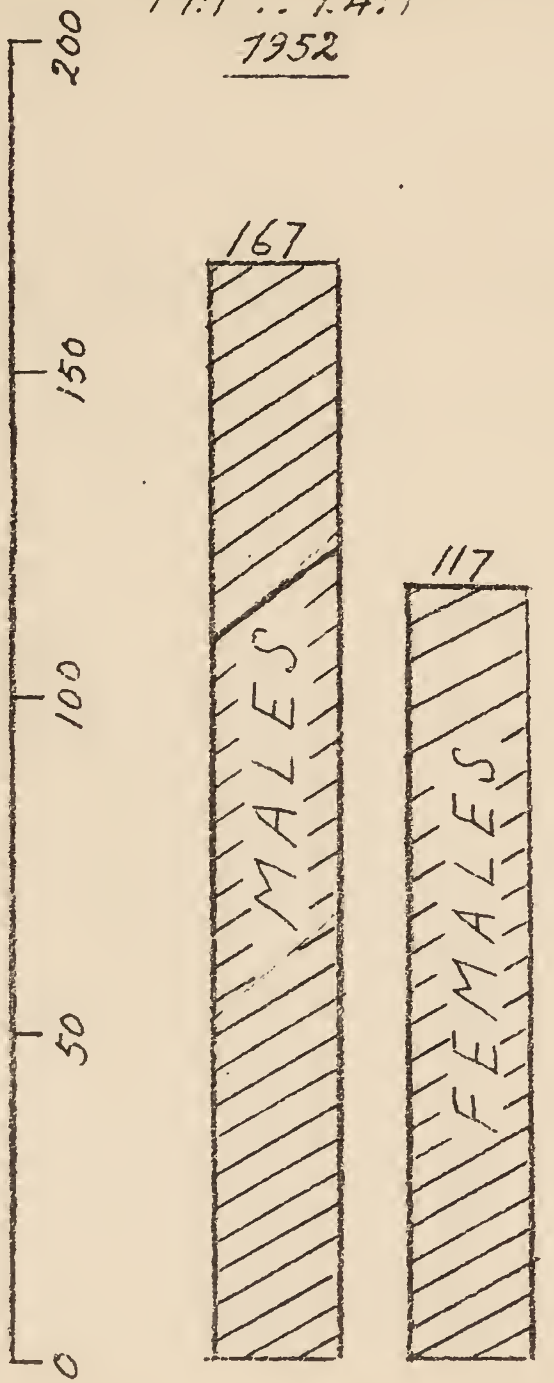


FIGURE VIII

SEX DISTRIBUTION
M:F:: 1.4:1
1948-1949

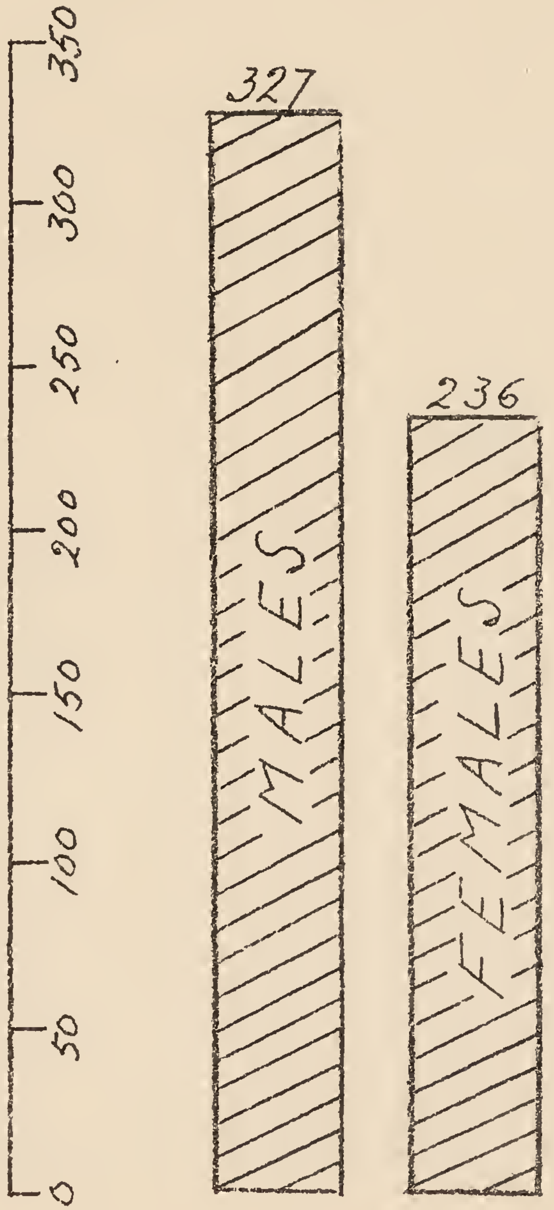


FIGURE IX

RACE INCIDENCE
RATE/100,000 — 1952

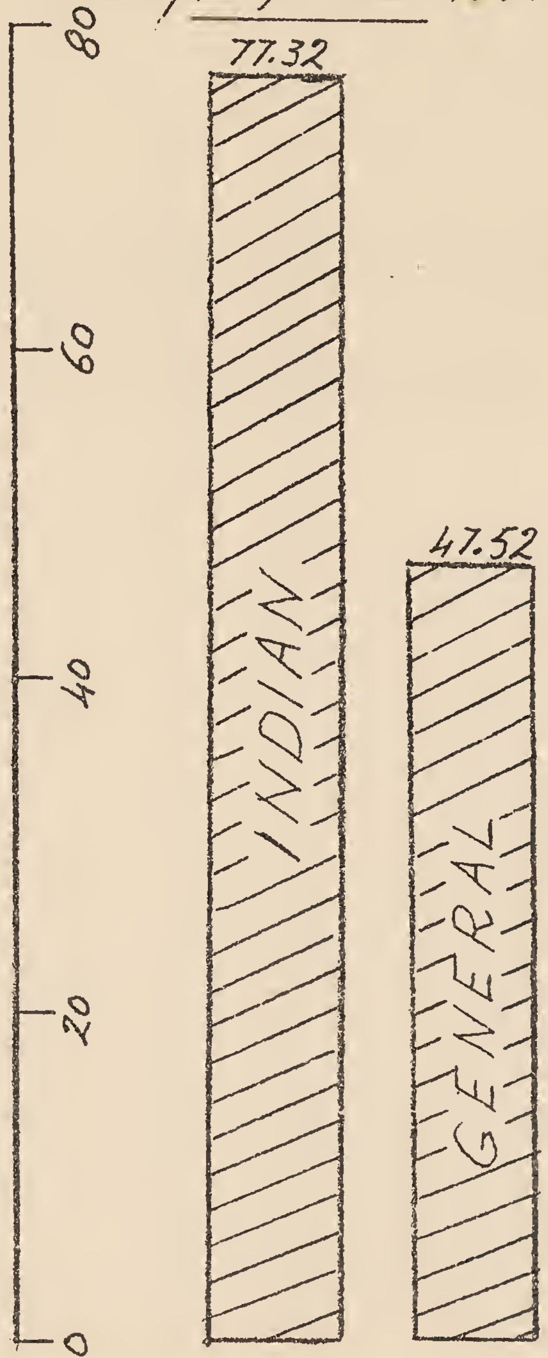


FIGURE X

## RACE INCIDENCE

Rate/100,000
1948-1949

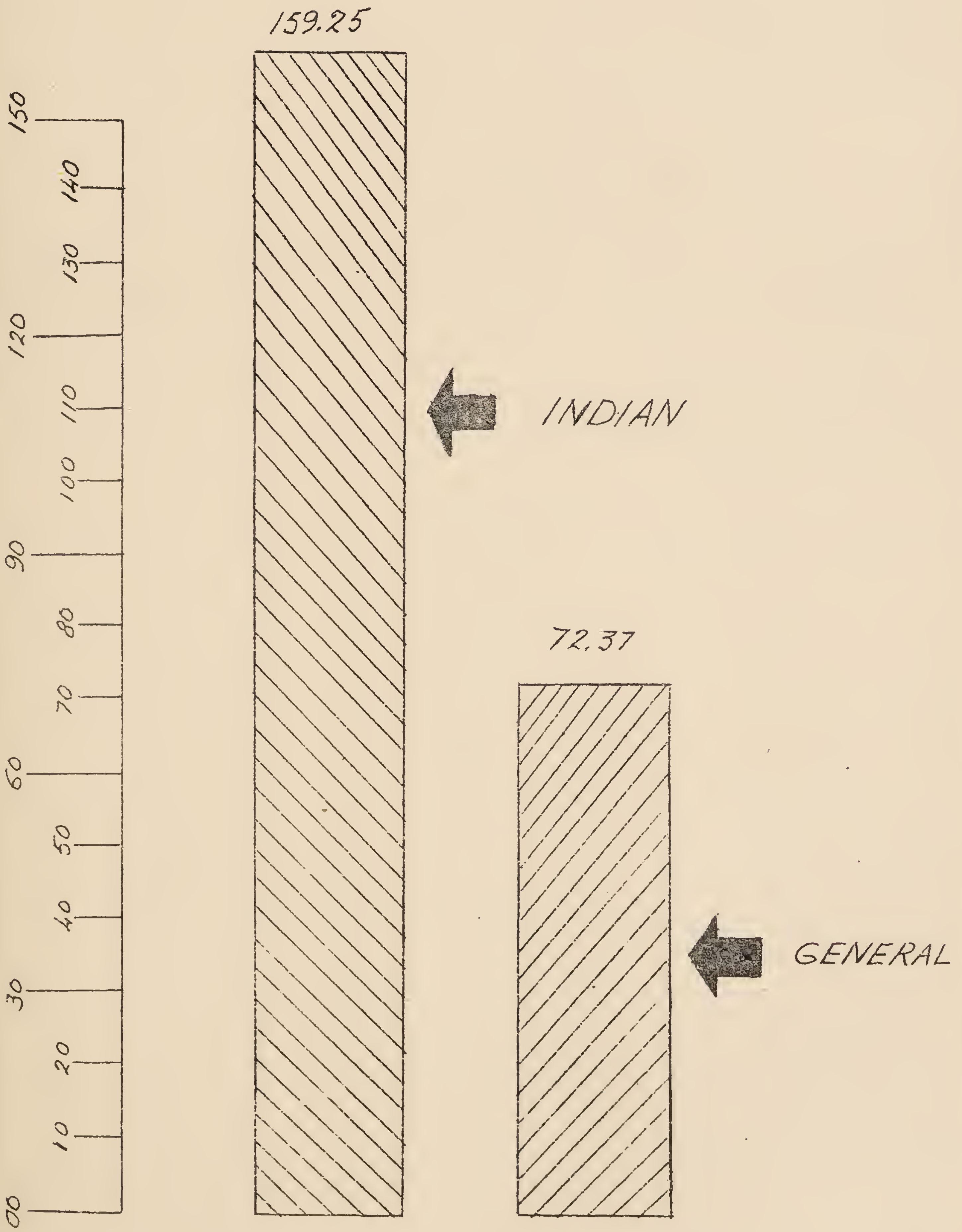
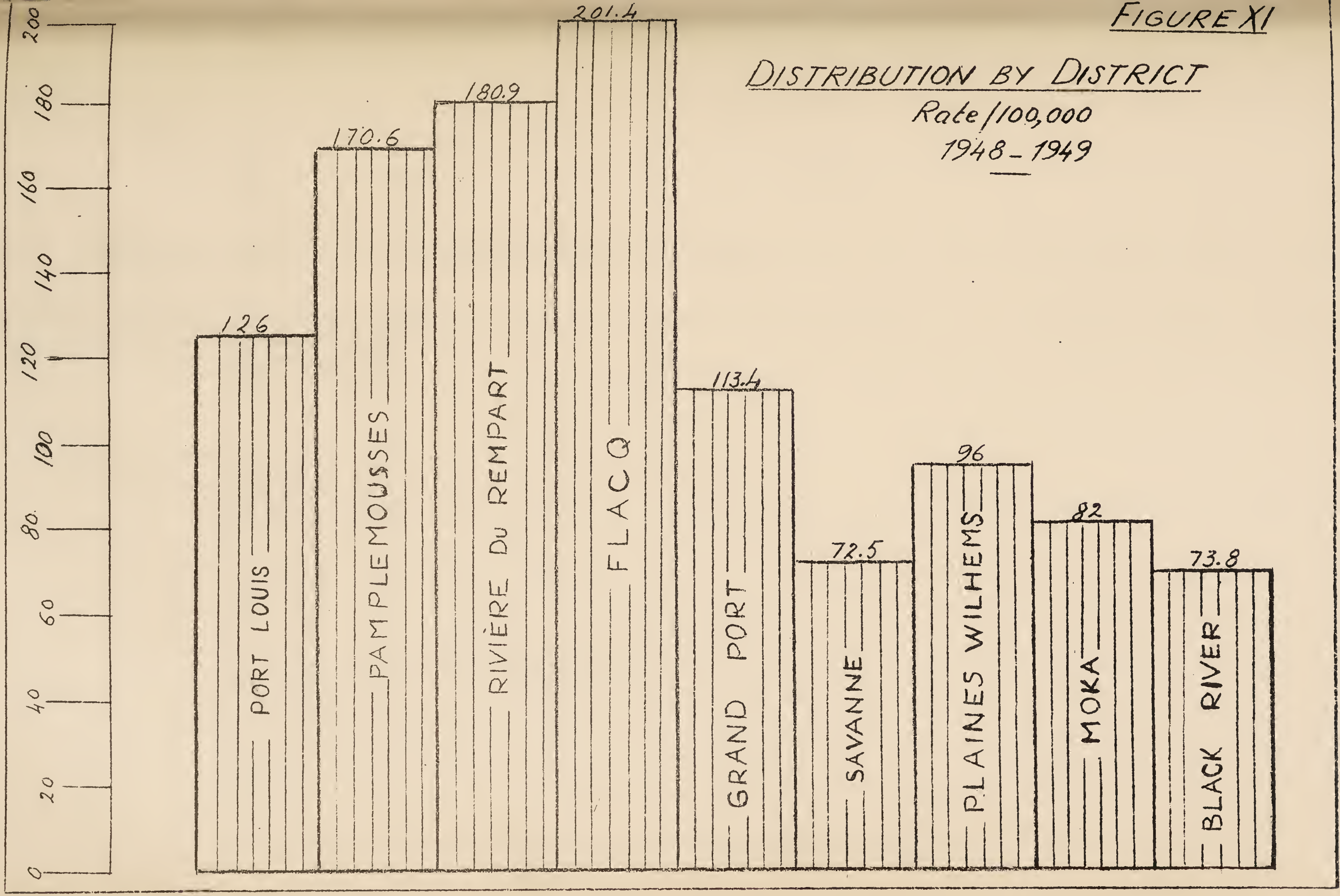


FIGURE XI



DISTRIBUTION BY DISTRICT

Rate/100,000

1948 – 1949

FIGURE XII.

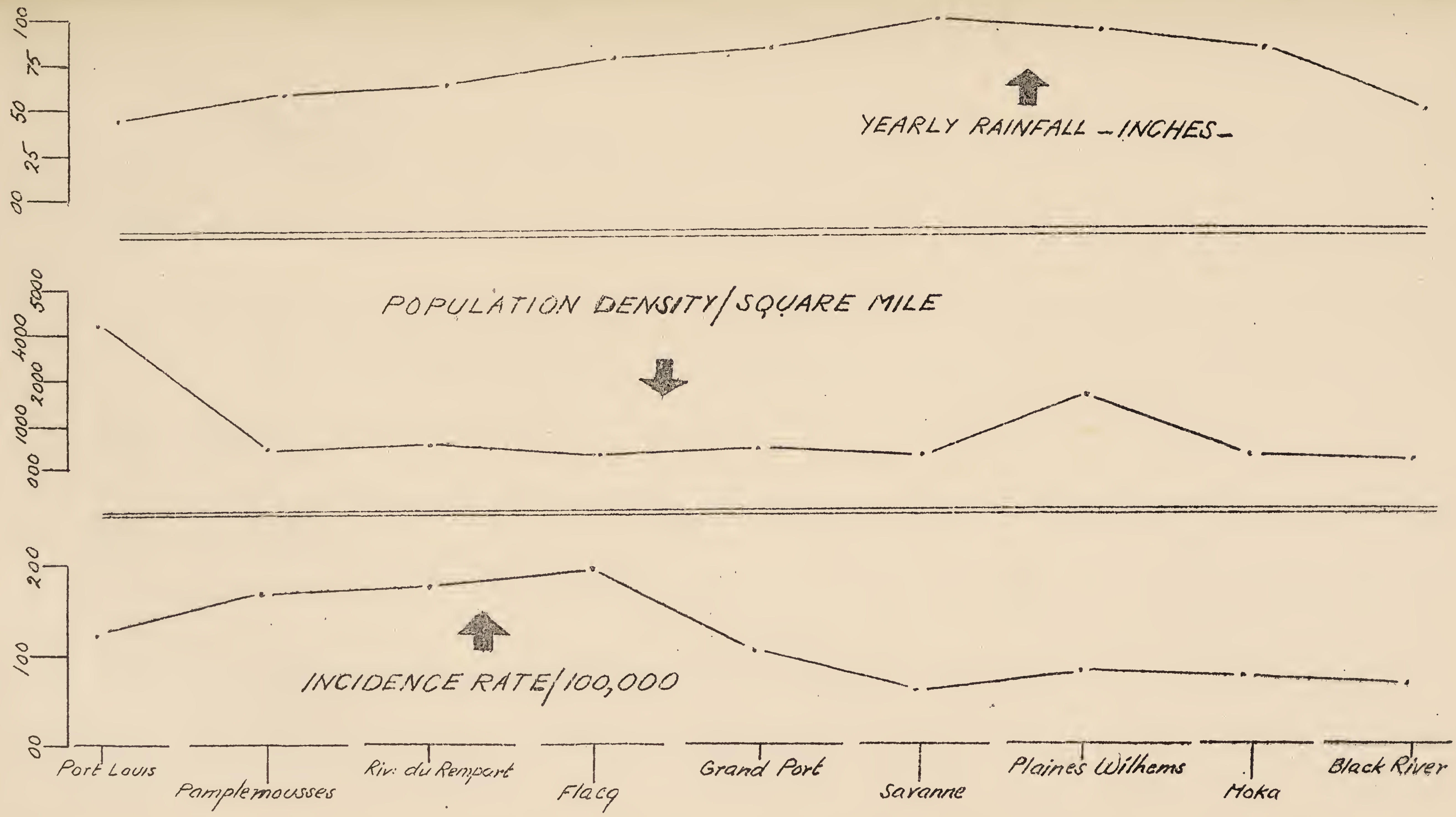

YEARLY RAINFALL - INCHES -
100
75
50
25
00
POPULATION DENSITY/SQUARE MILE
5000
4000
2000
1000
000
INCIDENCE RATE/100,000
200
100
00
Port Louis
Pamplemousses
Riv: du Rempart
Flacq
Grand Port
Savanne
Plaines Wilhems
Moka
Black River

FIGURE XIII.

COMPARISON OF THE 1945, 1948/49 AND 1952 EPIDEMICS